APPENDIX F

Biological Resources Memorandum

Draft Subsequent Environmental Impact Report

North Bayshore Precise Plan (Residential Uses)

City of Mountain View
March 2017

H.T. HARVEY & ASSOCIATES
Ecological Consultants

MEMORANDUM

PROJECT #3498-02

DATE: **May 10, 2016**

TO: **Eric Yurkovich, Raimi + Associates**

FROM: **Steve Rottenborn**

SUBJECT: **North Bayshore Precise Plan Update – Biological Resources Analysis for Potential Residential Development**

This memorandum represents H. T. Harvey & Associates' assessment of the potential locations and amounts of residential development proposed in the North Bayshore Precise Plan area to determine the following:

- Potential impacts of residential land uses on sensitive habitats and species
- Measures to reduce the potential for and magnitude of such impacts

We understand that several potential scenarios, varying in the extent and location of residential development, have been considered by the Raimi + Associates / City of Mountain View team, and that the Mountain View City Council has directed the team to study the scenario depicted in Figure 1 (hereafter referred to as the "focal residential scenario"). Therefore, the first part of this memorandum addresses potential impacts of residential land uses on biological resources, and measures to reduce such impacts, based on this scenario.

However, we also understand that the City Council has requested flexibility in land-use planning, so that residential development could be considered for virtually any location within the area designed "Potential Residential Uses" in Figure 2. The second part of this memorandum briefly addresses potential impacts, and associated measures to reduce impacts, from siting residential development anywhere within the area designed "Potential Residential Uses" in Figure 2. We have also incorporated a brief discussion of the applicability of bird safe design standards to residential development.

Our assessment of potential impacts is based on H. T. Harvey's experience assisting with biological resources planning for the initial North Bayshore Precise Plan; our experience with biological resources of the Precise Plan area gained by extensive project work for landowners and tenants throughout much of the Precise Plan area; and our personal knowledge of the biota of this area.

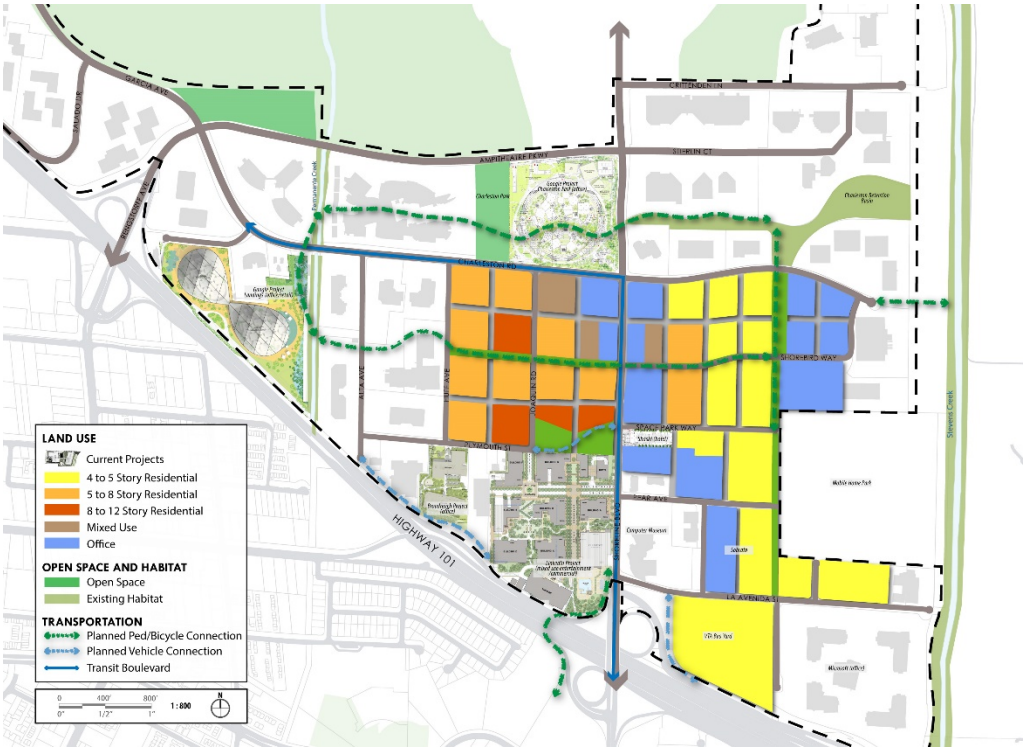

Figure 1. "Focal Residential Scenario" showing one potential residential development scenario.

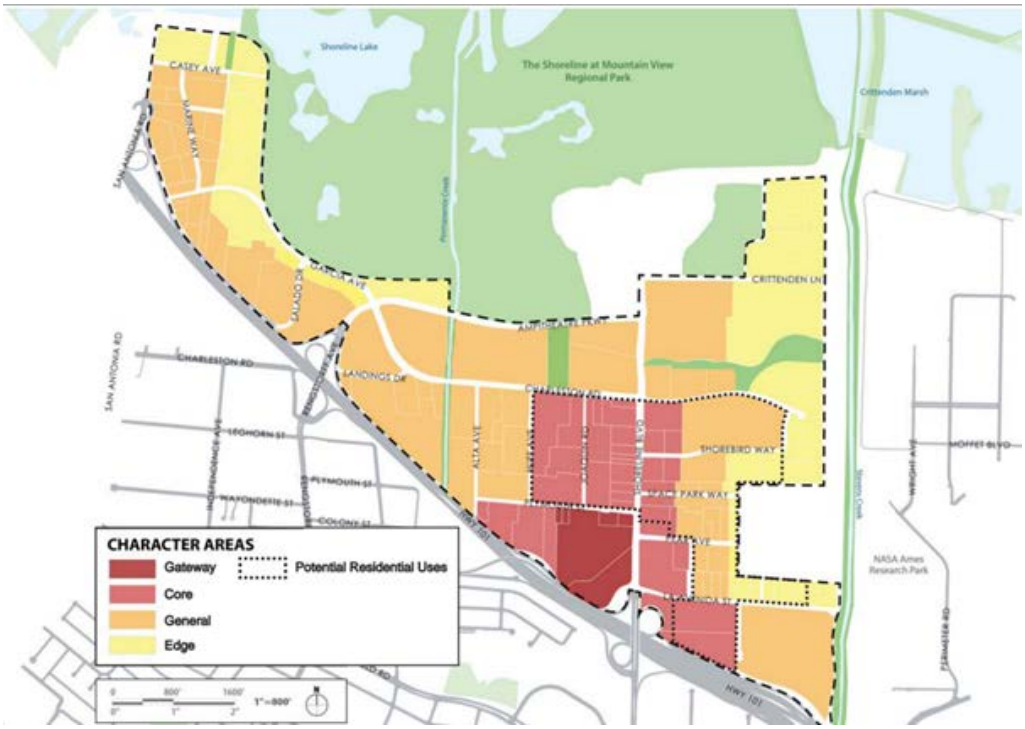

Figure 2. Precise Plan map showing areas of potential residential development.

Focal Residential Scenario

Potential Impacts on Biological Resources

The primary sensitive biological resources in and adjacent to the Precise Plan area are:

- Riparian, stream, and storm drain facility (i.e., wetland) habitats associated with Permanente and Stevens Creeks, the Charleston Retention Basin, Shoreline Lake, Coast Casey Forebay, and the Coast Casey channel, and their associated wildlife communities
- The burrowing owl (*Athene cunicularia*), a California species of special concern that nests and forages in Shoreline Park immediately adjacent to the Precise Plan area, and its habitats
- The regionally important great egret (*Ardea alba*) and snowy egret (*Egretta thula*) rookery along the east end of Shorebird Way

Impacts on these sensitive biological resources from the office, research and development, retail, services, hotel, and entertainment land uses that are currently permitted in the Precise Plan were evaluated during the preparation of the original Precise Plan, and measures to protect these sensitive resources and their ecological functions and values were incorporated into that Plan.

Compared with the land uses that are currently permitted, residential land uses could potentially have several additional impacts on sensitive biological resources, or could have greater impacts on these resources. This memorandum focuses on the incremental increase in impacts that may result from incorporation of residential land uses, relative to impacts of land uses envisioned in the existing Precise Plan. Such impacts may result from:

- An increase in the number of people present in the Precise Plan area at night and on weekends. Currently, human activity in much of the Precise Plan area is highest on weekdays due to the predominance of employment-related land uses. It is likely that the number of people present in the vicinity of sensitive resources will be consistently higher, throughout the day/night and throughout the week, with residential and mixed-use land uses.
- A potential increase in nighttime noise and lighting from residential land uses due to greater occupancy of the Precise Plan area at night.
- An increase in pets, particularly dogs and cats, in the vicinity of sensitive resources
- Presence of children, who may be less likely to comply with guidelines to protect sensitive resources than the adults who currently comprise the majority of Precise Plan area users
- An increase in the number of people who will use sensitive areas adjacent to the Precise Plan area, such as the Stevens Creek trail and Shoreline Park. With residential land uses, more people are likely to use such areas than currently do.

Actual impacts (or increases in impacts) on sensitive resources that may result from the changes noted above include:

- Disturbance and degradation (e.g., through trampling by off-trail users) of sensitive wetland and riparian habitats that support sensitive species and locally high wildlife diversity. Even minor disturbances of habitats can accumulate over time to reduce the extent and quality of habitat, particularly in the ground cover and understory layers. This may result in the reduction of habitat that supports certain sensitive species (such as the California species of special concern San Francisco common yellowthroat [*Geothlypis trichas sinuosa*]) and in the number of species that can be supported by habitat in a given area.

- Disturbance of wildlife by increased numbers of people, increased duration of human presence in and adjacent to wildlife habitat, and increased night lighting and noise. Although some animals will tolerate, or habituate to, increased human presence, more sensitive species may perceive humans as a threat. Some of the animals using the Precise Plan area are nocturnal, while many others are adapted to quiet/dark nighttime conditions, and therefore increases in lighting, noise, or human activity at night may reduce habitat quality for such species. Over time, the cumulative impacts of increases in human activity in the vicinity of sensitive habitats may reduce the abundance of wildlife using those habitats.

- Disturbance of, and predation on, wildlife by pets. Cats and off-leash dogs pose a threat to wildlife, as such animals may directly pursue, harass, or even injure or kill wildlife. Even if on-leash, dogs may be perceived by some wildlife as predators, causing wildlife to leave areas subject to repeated visit by dogs. The cumulative effects of exposure to leashed dogs may reduce the abundance of wildlife over time.

- Human food waste attracts and subsidizes the diets of certain urban-adapted "nuisance species", such as the native American crow (*Corvus brachyrhynchos*) and raccoon (*Procyon lotor*) and the non-native Norway rat (*Rattus norvegicus*) and black rat (*Rattus rattus*). These species are also predators of more sensitive native species, including the eggs and nestlings of birds. Increases in human food waste that is available to these nuisance species, which could potentially result from increased residential land uses and numbers of people in the Precise Plan area, may augment populations of nuisance species and exacerbate predation on sensitive species.

The inclusion of residential development as indicated in the "focal residential scenario" could result in all of the impacts noted above. In particular, the proximity of residential land uses to the Charleston Retention Basin is likely to increase impacts on the wildlife inhabiting that basin. The wetland and riparian vegetation in and around the basin currently provides the highest-quality wildlife habitat within the Precise Plan area, and proposed enhancement of that habitat by Google, through the removal of selected non-native vegetation and expansion/augmentation of native riparian habitat, is expected to increase habitat values even more. The focal residential scenario includes 4-5 story residential buildings across Charleston Road from, and within approximately 150 feet of, the Basin, which is likely to result in some degradation in wildlife habitat value, and wildlife populations, using the Basin over time. The planning that led to the focal residential scenario has addressed potential impacts to some extent by siting even taller residential buildings farther from the Basin and maintaining office uses in much of the area surrounding the Basin, but some incremental increase in impacts is likely to occur.

Direct impacts to sensitive resources in other areas have been avoided or reduced due to the locations in which residential development will be allowed, as shown in Figure 2. For example, residential development would not occur near Shoreline Lake or Coast Casey Forebay/Channel, and residential development setbacks of more than 400 feet (and in most places, much more) from the western Stevens Creek levee, more than 1,000 feet from Permanente Creek, and more than 900 feet from the southern edge of burrowing owl habitat at Shoreline Park will reduce the potential increase in direct disturbance of those sensitive areas from residential land uses. However, in the absence of measures to reduce impacts (described below), the focal residential scenario is expected to result in greater impacts on biological resources than would occur with the land uses included in the current Precise Plan. Riparian and stream habitats along Stevens Creek and Permanente Creek, as well as plantings of native vegetation within the development areas (such as along Google's "Green Loop"), may be degraded over time by trampling, and wildlife using those areas will receive more direct disturbance by humans and pets, than is expected to occur without residential development in the Precise Plan area. Greater human use of Shoreline Park is also expected to occur, and this human use may be accompanied by increases in dogs and cats within Shoreline Park. Although dogs are not allowed within the park, even on-leash, and human activities are supposed to be restricted to existing trails, infringement on these regulations will likely increase with people living in the Precise Plan area. Increases in human activity, dog activity, and visits by pet cats to Shoreline Park is expected to result in increased disturbance of, and possibly predation on, burrowing owls in the park. Over time, such impacts would likely result in a decline in burrowing owl populations in the park.

It is worth noting that we are aware of no studies that directly support specific HOZ distances or that directly support our viewpoint that residential land uses will have greater effects on sensitive biological resources than other land-use types. However, there are numerous studies documenting the effects of dogs and cats on wildlife, the effects of human trail use on wildlife, the effects of off-trail use on vegetation and wildlife habitat, and the effects of nuisance/predatory animals on wildlife, and it is our professional opinion that these effects may be exacerbated by residential land uses, as opposed to commercial/office land uses. The contents of this memo therefore represent our best professional judgment applying our assumptions regarding patterns and levels of human and pet activity, and food waste disposal, to the North Bayshore land-use scenarios that may involve residential development.

Measures to Reduce Potential Impacts

The existing Precise Plan already includes measures to protect sensitive resources in the Precise Plan area, and this biological resources analysis assumes that these existing measures (at a minimum) would continue to be implemented for the Precise Plan update. In addition, other measures and/or modifications of the existing measures will be needed to minimize the incremental increase in impacts that may result from inclusion of residential land uses. Measures that should be considered for incorporation into the Precise Plan update to address anticipated impacts from the focal residential scenario include:

- Consider setting back the residential "block" immediately southwest of the Charleston Retention Basin farther from the basin. Incorporating a park or office use between residential development and the Basin would provide some buffer from direct disturbance of wildlife using the Basin; a park may also serve as an outdoor human-use area that could relieve some of the use of trails around the Basin as a "park".

- Expand plantings of native vegetation, and non-native vegetation that is appropriate (e.g., non-invasive and providing wildlife habitat value), around sensitive wetland, stream, and riparian habitat areas to provide a buffer from adjacent land uses and to increase resources available to wildlife species.
- Add a new dog park within North Bayshore, as far as possible from Shoreline Park and other sensitive habitat areas. A new dog park may reduce the likelihood that people will try to bring dogs into Shoreline Park.
- Add or increase signage around sensitive habitats explaining the ecological value of these habitats and prohibiting entry by humans and their pets. Such signage would be placed along the inner edges of the Permanente Creek and Stevens Creek levees; along the Coast Casey Channel; around the Charleston Retention Basin, the portions of Shoreline Lake and the Coast Casey Forebay closest to the Precise Plan area; and along the edges of Shoreline Park burrowing owl habitat. Signs at the points where trails enter Shoreline Park from the Precise Plan area should be particularly obvious and should clearly indicate the prohibition against taking pets (including leashed dogs) into the park.
- Add chain-link fencing around burrowing owl habitat preserves within Shoreline Park to inhibit entry by humans and dogs into owl habitat.
- Increase patrols within Shoreline Park and enforcement of prohibitions against off-trail human activities and dogs within the park.
- Enhance burrowing owl habitat within Shoreline Park (e.g., through improved vegetation management, predator management, provision of artificial burrows, targeted tree removal, and other measures) to enhance the owl population.

Potential Flexibility in Siting Residential Areas

Potential Impacts on Biological Resources

Because the City Council has requested flexibility in land-use planning, it is possible that residential development could be considered for virtually any location within the area designed "Potential Residential Uses" in Figure 2. Impacts of residential development would include those described above for the focal residential scenario. The magnitude of such impacts would vary depending on proximity of residential development to the sensitive resources (with the potential for impacts increasing with closer proximity), building height (taller buildings may be more easily perceived by wildlife as unsuitable habitat, potentially reducing the quality of adjacent high-quality habitat areas, and could support more human occupants), and the number of additional people and pets in and near sensitive habitats as a result of residential development. Because residential development is expected to result in greater impacts on adjacent sensitive habitats than the land-use types included in the existing Precise Plan, the Habitat Overlay Zone (HOZ) widths included in the existing Precise Plan are not expected to adequately reduce impacts from residential land uses (see *Measures to Reduce Impacts* below).

In addition, impacts may occur that would not be anticipated under the focal residential scenario, if residential development were approved in areas too close to sensitive resources. For example, residential development too close to the egret rookery could potentially result in abandonment of the rookery due to increased levels of disturbance from humans, pets, noise, and nuisance animals. As another example, clustering of tall residential

buildings around sensitive resources such as the Charleston Retention Basin, without setbacks larger than those described in the existing Precise Plan, may substantially reduce use of this important area by migratory birds.

The area in which potential residential uses may occur is not at all close to Shoreline Lake or Coast Casey Forebay/Channel and is set back more than 400 feet from the western Stevens Creek levee, more than 1,000 feet from Permanente Creek, and more than 900 feet from the southern edge of burrowing owl habitat at Shoreline Park. As a result, residential uses are not expected to result in substantial direct impacts (e.g., from the effects of lighting or tall buildings) on those resources regardless of where residential development occurs within the residential study area. However, indirect effects of residential development resulting from the movement of people and pets from residential areas to sensitive habitat areas, and subsidy of predatory/nuisance wildlife with food waste, will still affect sensitive resources. In general, the closer residential development is to a given sensitive biological resource area, the greater the number/frequency of visits to the biological resource area by humans, pets, or predatory/nuisance wildlife, and thus the greater the potential for, and magnitude of, the impact on sensitive biological resources.

Measures to Reduce Potential Impacts

Measures that may need to be considered to reduce impacts from siting residential development in locations other than those depicted in the focal residential scenario include:

- Set residential development back as far as possible from sensitive habitats. For example, the width of HOZs for residential development could be doubled (as compared to the widths for other types of development in the existing Precise Plan). Given the area in which residential development may occur (see Figure 2), residential development will be located far enough from burrowing owl habitat, the Coast Casey Forebay/Channel, Permanente Creek, Shoreline Lake, and Stevens Creek that a doubling of the HOZs is unnecessary – no residential development would occur within areas surrounding those resources represented by a doubling of the HOZs. The only sensitive biological resource areas in close proximity to the residential study area are the Charleston Retention Basin and the egret rookery. To maintain the ecological integrity of the Charleston Retention Basin and minimize the potential for abandonment of the rookery due to residential impacts, expanded residential HOZs of 400 feet for each of these areas (representing a doubling of the HOZs in the existing Precise Plan) should be considered. Figure 3 depicts the approximate locations of 200-foot (from the existing Precise Plan) and 400-foot (representing a doubling of that buffer distance for residential development) buffers around the Charleston Retention Basin and the egret rookery to indicate that area that would be affected by doubling the HOZs around these resources.
- Prohibit people from bringing pets (even leashed dogs) into the egret rookery HOZ while the colony is active (which may be March 1 – August 31 but is usually some subset of that period).
- Minimize building height closer to sensitive areas. Although HOZ exceptions may be granted in some cases (as described in the existing Precise Plan), exceptions should not be granted if buildings more than three stories high would be located within the HOZ around any sensitive resource. In addition, no buildings more than four stories high should be constructed within 100 feet of an HOZ boundary (i.e., 100 feet should be added to any HOZ for buildings taller than four stories), to provide additional buffer

between sensitive resources and taller buildings. These guidelines (which are being added to the Precise Plan as guidelines rather than absolute requirements, to provide some flexibility) should apply regardless of the type of development (e.g., residential or non-residential).

- Monitor performance of the HOZs and measures of habitat quality in sensitive habitats to make sure that restrictions are effective and determine whether any additional/adaptive protective measures are needed. Examples might include monitoring of the number of occupied or successful nests in the egret rookery, human activity/compliance with signage in sensitive areas, or structure of vegetation at the perimeter of the Charleston Retention Basin (to determine whether trampling is adversely affecting habitat).

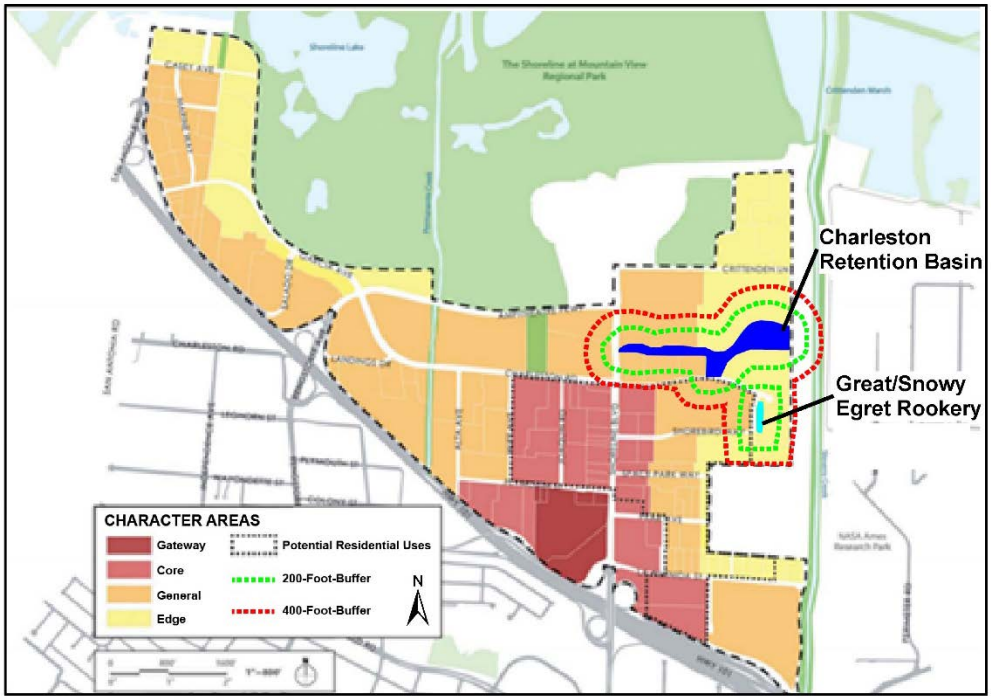

Figure 3. Precise Plan map showing areas of potential residential development and both the existing and doubled HOZ buffers around the Charleston Retention Basin and the egret rookery.

Bird Safe Design for Residential Buildings

Section 5.2 of the existing Precise Plan describes bird safe design standards that will be required for all new construction and major renovations to reduce bird-building collisions. Those standards are currently required for the office, research and development, retail, services, hotel, and entertainment land uses that are currently permitted in the Precise Plan. If the City desires to minimize avian collisions with buildings in the North Bayshore area, most of those bird safe design standards should be applied to residential buildings as well. From the perspective of avian collisions, the use of the building (e.g., whether for residential or other uses) is irrelevant to the risk of bird collisions, all else being equal. Rather, the risk or frequency of bird collisions with a building results primarily from the characteristics of a building's façade and surrounding habitat conditions, so there is no

biological basis for distinguishing between residential and commercial/office buildings with respect to requiring bird safe design.

Other Bay-area localities that have adopted bird safe design guidelines or ordinances, such as the cities of San Francisco and Oakland, have applied them to both residential and commercial/office buildings. The City of San Francisco includes only one limited exception for treatment of residential buildings that are considered "location-related hazards" (i.e., they are less than 300 feet from areas meeting certain criteria that qualify them as Urban Bird Refuges) - residential buildings less than 45 feet in height within certain districts that have an exposed façade composed of less than 50% glass are exempt from new or replacement glazing treatments. However, even those buildings have to apply bird safe design requirements to any "feature-related hazards", such as free-standing clear glass walls, skywalks, greenhouses on rooftops, and balconies that have unbroken glazed segments 24 square feet and larger in size.

Of the bird safe design standards included in the existing Precise Plan, the only one that may not be feasible or desirable for residential buildings is the requirement that occupancy sensors or other switch control devices be installed on non-emergency lights and programmed to shut off during non-work hours and between 10:00 pm and sunrise. For safety or other reasons, such lights may not be feasible on residential buildings. The lack of such sensors on residential buildings may increase the risk of avian collisions somewhat (as compared to buildings with such sensors), but in general, we would not expect residential buildings to be very well-lit at night while residents are sleeping, and therefore such sensors may not be necessary on residential buildings anyway.

APPENDIX G

Stevens Creek Crossings Project
Biological Resources Memorandum

Draft Subsequent
Environmental Impact Report

North Bayshore Precise Plan
(Residential Uses)

City of Mountain View
March 2017

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Stevens Creek Crossings Project
Biological Resources Report

Project #3640-02

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List of Abbreviated Terms

ac	acre(s)
BFDs	bird flight diverters
BMPs	best management practices
Cal-IPC	California Invasive Plant Council
CCC	Central California Coast
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Mountain View
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel(s)
dbh	diameter at breast height
EFH	Essential Fish Habitat
FESA	Federal Endangered Species Act
FMP	Fisheries Management Plan
ft	foot/feet
HOZ	Habitat Overlay Zone
INC	Infrastructure and Conservation
IS/EA	Initial Study/Environmental Assessment
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NASA	National Aeronautics and Space Administration
NMFS	National Marine Fisheries Service
NTU	Nephelometric Turbidity Units
PG&E	Pacific Gas & Electric Company
POS	Parks and Open Space
Precise Plan	North Bayshore Precise Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCVWD	Santa Clara Valley Water District
SFBBO	San Francisco Bay Bird Observatory
SWPPP	Storm Water Pollution Prevention Plan

USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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Section 1. Introduction

The proposed Stevens Creek Crossings Project (Project) includes two proposed bridge crossings over Stevens Creek at Charleston Road and La Avenida Street in Mountain View, California. The biological resources present in the area of the proposed Charleston Road bridge crossing, as well as the potential impacts of this proposed bridge crossing on biological resources and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA), were previously described in the 2012 Stevens Creek Crossings Project Initial Study/Environmental Assessment (2012 IS/EA) (ICF International 2012). The current report incorporates and references information from the 2012 IS/EA as well as results from 2016 surveys and background reviews to provide an updated CEQA analysis for the Charleston Road bridge crossing. For the proposed bridge crossing at La Avenida Street, this report provides a stand-alone description of the biological resources present, as well as a programmatic assessment of the potential impacts of the proposed bridge crossing on biological resources and measures necessary to reduce these impacts to less-than-significant levels under CEQA.

1.1 Project Description

A synopsis of the Project description is provided below for the proposed bridge crossing over Charleston Road. Additional details regarding this bridge crossing including construction methods, long-term maintenance activities, and environmental commitments to avoid and minimize impacts on biological resources are provided in the 2012 IS/EA (ICF International 2012), but our assessment assumes no substantive changes to the Project description for the Charleston Road bridge relative to the 2012 IS/EA. No Project description or bridge design are available for the proposed bridge crossing at La Avenida Street.

1.1.1 Project Location and Study Areas

The approximately 27.9-acre (ac) Project area is located along Stevens Creek north of U.S. Route 101 and south of Crittenden Lane in Mountain View, California (Figure 1). The Project area is divided into the Charleston Road study area and the La Avenida Street study area (Figure 2). All portions of the Project area are found on the *Mountain View, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle map, Section 10 of Township 6 South, Range 2 West.

The 15.5-ac study area for the proposed bridge crossing at Charleston Road (hereafter, the "Charleston Road study area"), which was identified in the 2012 IS/EA, encompasses an inverted T-shaped area that extends approximately 1,750 feet (ft) north-to-south from Crittenden Lane to Charleston Road. At Charleston Road, the study area extends approximately 1,620 ft east-to-west across Stevens Creek from the intersection of Allen Road and Wright Avenue to the intersection of Charleston Road and Shorebird Way (Figure 2). The Charleston Road study area includes a reach of Stevens Creek and a segment of the Stevens Creek Trail. In addition, an

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Figure 1. Vicinity Map
Stevens Creek Crossings Project Biological Resources Report (3640-02)
September 2016

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Figure 2. Project Area Map
Stevens Creek Crossings Project Biological Resources Report (3640-02)
September 2016

approximately 1,500 ft-long proposed staging area extends north-to-south from Crittenden Lane to the proposed Charleston Road bridge crossing on the west side of Stevens Creek within a Pacific Gas and Electric Company (PG&E) transmission line corridor that is currently in use by a nursery. Transmission towers along the PG&E transmission line corridor are located at the northernmost end of the study area, roughly in the middle of the proposed staging area, and approximately 35 ft south of the study area. West of Stevens Creek, the Stevens Creek Trail is situated approximately 16 ft above Stevens Creek on an engineered levee embankment, and a gravel Santa Clara Valley Water District (SCVWD) access road parallels Stevens Creek at the base of the levee. East of Stevens Creek, gravel SCVWD access roads are similarly situated at the top and toe of the engineered levee. The westernmost edges of the study area abut office buildings that are part of Google's Mountain View campus. The National Aeronautics Space Administration's (NASA) Ames Research Center owns lands within the study area located east of Stevens Creek, but Google is currently leasing these lands.

Because the bridge crossing at La Avenida Street has not yet been designed, we defined the La Avenida Street study area to include an area that is of similar length (i.e., east and west of Stevens Creek) to the Charleston Road study area, and that is conservatively wider north and south along Stevens Creek to encompass the potential construction impact area for the bridge and its approaches. The 12.4-ac study area for the proposed bridge crossing at La Avenida Street (hereafter, the "La Avenida Street study area") extends approximately 600 ft north-to-south along Stevens Creek, with the center at La Avenida Street. The study area extends approximately 1,600 ft east-to-west from approximately 65 ft west of the terminus of Stevens Way to the driveway for 1080 La Avenida Street (Figure 2). West of Stevens Creek, the Stevens Creek Trail is situated approximately 18 ft above Stevens Creek at the top-of-bank (no engineered levee is present), and a gravel SCVWD access road is situated at the base of the slope. The western bank of Stevens Creek is stabilized with sakrete and contains a large culvert outlet. The eastern bank of Stevens Creek contains several smaller culverts that are built into smaller reaches of sakrete walls, and gravel SCVWD access roads are situated at the top and toe of the slope (no engineered levee is present). Both banks of Stevens Creek are steeply sloped. Lands to the east of Stevens Creek are federally owned and formerly contained a military barracks, but the barracks has been demolished and the site is currently undeveloped. The northeast portion of the study area extends into lands associated with the 63rd Regional Support Command Headquarters. One PG&E transmission tower is located several feet north of the La Avenida Street cul-de-sac within the study area.

Collectively, we refer to the Charleston Road and La Avenida Street study areas as the "Project area" (Figure 2).

1.1.2 Charleston Road Vehicular Crossing

The Project would construct one new vehicular bridge and roadway connection aligned with the eastern terminus of Charleston Road and perpendicular to Stevens Creek. The bridge would free-span the creek and its levees completely; from the outer toe of one levee to the outer toe of the other levee, the estimated distance is 280 linear ft. Following is a brief synopsis of the Project description for the proposed bridge crossing over Charleston Road.

- The roadway approaches on each end of the bridge structure would consist of a 35-ft wide, two-lane paved roadway. The vehicular lanes would be 12-ft wide, adjoined by 4-ft wide shoulders on either side. The widest point of the bridge (at the foundations on the outsides of the levees) would be 48 ft, with a curb-to-curb dimension of 34 ft.
- Authorized utility access to and within the existing PG&E transmission line corridor and SCVWD levee structures would be maintained.
- No structures—permanent or temporary—would be built within Stevens Creek and no changes would be made to the existing levees, except for minor modifications at the new pedestrian/bicycle bridge as may be required by the SCVWD.
- At or near the proposed western point of connection to the bridge roadway at the existing terminus of Charleston Road, vehicular traffic would be controlled for access only by high occupancy transit, security vehicles, and emergency response vehicles. No private vehicular use would be allowed. Similar controls would be implemented at the eastern point of connection to streets within NASA Ames Research Center.
- Construction of the new bridge would trigger a requirement to raise adjacent PG&E transmission towers to a new height sufficient to meet a minimum 30-ft safety separation between high-voltage lines and bridge/roadway structures. An easement from PG&E would be required for construction of the bridge roadway connection.
- An encroachment permit and a licensing agreement from SCVWD would be required for construction of the new vehicular bridge.

1.1.3 Charleston Road Pedestrian/Bicycle Crossing

The Project would construct one new, prefabricated pedestrian/bicycle bridge and pathway connection aligned with the eastern terminus of the Charleston Road bike lanes, adjacent to the south side of the proposed new Charleston Road vehicular bridge. The bridge/pathway connection would link the two sides of Stevens Creek, and is additionally designed to provide new access to the existing Stevens Creek Trail located on the top of the Stevens Creek levee. The western landing of the pedestrian/bicycle bridge will be located near the existing eastern terminus of Charleston Road, just south of the western landing of the vehicular bridge. The eastern approach of the pedestrian/bicycle bridge has not yet been determined, but the center line of this bridge would be no closer than 100 linear ft and no farther than 250 linear ft from the center line of the new vehicular bridge. As the design is refined, the location of the western landing of the bridge will remain fixed while the location of the eastern landing will be adjusted based on the final bridge alignment.

- The design and installation of a prefabricated bridge would be based on the existing City of Mountain View (City) pedestrian/bicycle bridge to the north of the existing Crittenden Bridge, with a levee-top to levee-top span of approximately 162 ft and a deck width of 12 to 20 ft.
- The bridge deck surface would be approximately 12 to 18 inches above the existing Stevens Creek Trail surface to accommodate increasing structure under clearance by six inches plus bridge deck framing

thickness. To match the trail grade, the vertical difference would be addressed by repaving the trail 100 to 150 ft in each direction, to smoothly reconcile the elevation difference.

- The new paved pathway would extend the Charleston Road bike lanes and sidewalks eastward through the PG&E transmission line corridor and across SCVWD property adjoining Stevens Creek, with the pedestrian/bicycle bridge approach crossing under the new vehicle bridge approach, to connect to the Moffett Federal Airfield pathways and bike lanes on the east side of the Creek. No structures—permanent or temporary—would be built within Stevens Creek.
- Both in- and out-bound trail approach segments would be constructed to gain approximately 13 ft of elevation from the existing low point at the terminus of the Charleston Road right-of-way to the high point on the bridge deck over Stevens Creek. All pedestrian trail slopes would meet Americans with Disabilities Act requirements.
- Within the existing Charleston Road right-of-way, safety and aesthetic improvements would include resurfacing, pavement striping, signage, lighting, and landscaping.
- Easements from both PG&E and the SCVWD would be required for construction of the pedestrian/bike pathway and bridge.

1.2 Biological Resource Commitments for the Charleston Road Study Area

The 2012 IS/EA described biological resources commitments that have been incorporated into the Charleston Road bridge component of the Project to avoid and minimize impacts to sensitive biological resources; we have assumed that these commitments continue to apply to the Charleston Road Bridge, and these commitments are not restated here. We are providing one additional biological resource commitment to avoid and minimize potential Project-related impacts due to bird strikes at the Charleston Road bridge. Bird collision impacts were not explicitly addressed or described in detail in the 2012 IS/EA, and this issue has received a higher level of attention in recent years (e.g., due to the publication of the North Bayshore Precise Plan [Precise Plan] [City of Mountain View 2014a]). In addition, we are revising the Project's biological resource commitment to avoid and minimize impacts on nesting birds to be consistent with the Precise Plan, and removing the following two commitments provided in the 2012 IS/EA because they were applicable only at the Crittenden Road Bridge, which was included in the 2012 IS/EA but is no longer part of the Project:

- Preconstruction surveys for the California Ridgway's rail (*Rallus obsoletus obsoletus*) (formerly known as the California clapper rail) for work that occurs during the rails' breeding season (January 15 to August 31) within 200 ft of suitable habitat. No suitable habitat for this species occurs within 200 ft of the current Project area (see Section 4.6.2), so this commitment is no longer needed.
- Adjusting the bridge design to avoid and minimize impacts on transitional habitat adjacent to the Western Diked Marsh. The current Project area is not adjacent to the Western Diked Marsh, and this commitment is no longer needed.

1.2.1 Bird Strikes

The Project will implement the following measures to reduce the risk of avian collisions with the proposed bridge at Charleston Road:

- No power lines shall be suspended above the bridge deck.
- Highly reflective surfaces will not be used.
- Night lighting on the bridge will be minimized, with the exception of lighting needed for safety and compliance with regulations. To the extent feasible, all lighting will be directed at the bridge deck (not outwards into natural areas).
- Spiral-shaped Bird Flight Diverters (BFDs), which have proven to be effective at reducing bird collisions with power lines (Barrientos et al. 2011, 2012), and which can be installed on vertical and angled cables, will be installed on all suspension cables on the Charleston Road bridge. The BFDs will be designed to increase the diameter of each cable to at least 8 inches over a length of at least 4–8 inches, placed at least every 16–32 ft (Jenkins et al. 2010). A minimum of 60% of each cable will be marked with BFDs (Eskon Transmission 2009). Where multiple cables are parallel, the BFDs will be staggered to increase visual density; this strategy can be used to reduce the number of markers needed on each individual cable (Avian Power Line Interaction Committee 2012).

1.2.2 Nesting Birds

We are replacing the biological resource commitments for nesting birds provided in the 2012 IS/EA with the standards and guidelines presented in Section 5.3 of the Precise Plan, "Nesting Bird Protection," provided below, which will be implemented during Project construction (City of Mountain View 2014a):

1. **Avoidance of the nesting season.** If construction, building additions, building alterations, or removal of trees and shrubs occurs outside the nesting season, impacts on protected nesting birds would be avoided. The nesting season for most birds in the Project area extends from February 1 through August 31. Work activities performed during the September 1 to January 31 period would not be subject to the pre-activity surveys and nest buffers described below.
2. **Pre-activity surveys.** If construction activities or removal of trees and shrubs occurs between February 1 and August 31, pre-activity surveys for active nests shall be conducted by a qualified biologist. These surveys shall be conducted no more than seven days prior to the initiation of work activities in any given area. During each survey, the biologist shall inspect all potential nesting habitats (e.g., trees, shrubs, and buildings) within the work area; within 300 ft of the work area for raptor nests; and within 100 ft of the work area for nests of other birds.
3. **Nest buffers.** If an active nest (i.e., a nest with eggs or young, or any completed raptor nest attended by adults) is found sufficiently close to work areas to be disturbed by these activities, the biologist, in coordination with the California Department of Fish and Wildlife (CDFW), shall determine the extent of

a disturbance-free buffer zone to be established around the nest. Typical buffer zones are 300 ft for nests of raptors and 100 ft for nests of other birds. However, the biologist, in consultation with the CDFW, may determine that a reduced buffer is appropriate in some instances. For example, topography, buildings, or vegetation that screen a nest from the work area, or very high existing levels of disturbance (indicating the birds' tolerance to high levels of human activity), may indicate that a reduced buffer is appropriate. No new activities (i.e., work-related activities that were not ongoing when the nest was established) will occur within the buffer as long as the nest is active.

1.3 Biological Resource Commitments for the La Avenida Street Study Area

We have identified the following biological resource commitments that will be incorporated into the La Avenida bridge component of the Project to avoid and minimize impacts to biological resources. These commitments are based on the commitments provided in the 2012 IS/EA for Charleston Road, as most of the biological resources in the two study areas are similar. However, because the design and construction of the La Avenida Street Bridge may differ from that of the Charleston Road Bridge, and because the habitats within the La Avenida Street study area differ from those at Charleston Road, we have modified the commitments used for the Charleston Road Bridge in the 2012 IS/EA and added several new commitments, as applicable.

1.3.1 Water Quality

To ensure that the Project complies with stormwater regulations enforced by the Regional Water Quality Control Board (RWQCB), the developer's construction activities shall conform to permit requirements specified in the State Water Resources Control Board's General Permit to Discharge Storm Water Associated with Construction Activity (WQ Order No. 2009-0009-DWQ). Included in the Construction General Permit is a requirement for the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will list best management practices (BMPs) that the discharger will use to manage stormwater runoff and the placement and use of the various BMPs during construction of the proposed Project.

The developer shall coordinate submittal of construction plans and specifications with NASA Ames' Environmental Management Division and the City. The Environmental Management Division will review the construction plans and specifications, and determine the appropriate BMPs in the SWPPP to be implemented as part of the developer's construction activities.

The primary objectives of the BMPs are to minimize soil erosion from the construction site and to prevent contact of stormwater with chemicals that may be used during construction. BMPs may include, but are not limited to the following:

- constructing berms or erecting silt fences at entrances to the site, perimeters of work areas, or as needed to divert runoff from contacting exposed soil;

- placing straw bale barriers around entrances to storm drains and catch basins;
- as required by City ordinance, during significant rainfall events, covering all soil stockpiles with plastic sheeting or tarps;
- protecting and/or closing storm drains located at the site during construction activities; and,
- storing chemical products inside buildings, sheds, or beneath water repellant tarps, and refraining from applying or dispensing chemicals (e.g., paints, lacquers, solvents, diesel fuels) outside during inclement weather.

The above BMPs are illustrative. It is anticipated that the developer will propose specific BMPs appropriate to the construction plans and specifications, and consistent with the Project SWPPP.

Post-construction stormwater control will be in accordance with the Santa Clara Valley Urban Runoff Pollution Prevention Program and the City's Guidelines, implemented pursuant to the Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit No. CAS612008 (the region's "MS4" stormwater permit program). For this Project, the City is the responsible entity for requiring the developer to implement these MS4 permit requirements. As stated in the MS4 permit, the goal of these permit requirements is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source.

NASA Ames Environmental Management Division and the City Public Works Department will review and approve the developer's BMPs. Additional BMPs and design elements may also be required by NASA and/or the City of Mountain View to protect water quality postconstruction and to ensure that the quantity, rate, and duration of stormwater runoff does not increase.

In addition, the Project will implement the following measure:

- To stabilize denuded soil surfaces that could contribute to sedimentation of Stevens Creek or its sensitive wetland and riparian habitats, and to preclude the establishment of invasive weed infestations within sensitive riparian habitat areas disturbed by construction, all disturbed, denuded areas on the banks of Stevens Creek will be seeded following construction with a native grassland-type seed mix.

Finally, because it is not known what construction methods would be required to construct the La Avenida Street bridge crossing, the additional measures described below will be taken to prevent any materials from falling into Stevens Creek during bridge construction:

- If construction and equipment access is required within the bed of Stevens Creek, or construction activities could potentially result in materials falling into the creek, the creek channel or work areas shall be dewatered.
- Depending on the method of dewatering (which would be selected based on construction access needs) either 1) creek flows will diverted through the work area within a culvert; or 2) isolated areas around

abutments or piers requiring dewatering would be sequestered with coffer dams and the water pumped out of the dammed area, still allowing the creek to flow in the remainder of the channel. In either case, silt barriers, settling basins, and erosion control materials shall be installed between denuded work areas, as needed.

- All water that is pumped out of isolated areas behind coffer dams will be discharged into Baker tanks or similar containers and no water will be discharged back into Stevens Creek unless turbidity and water quality standards are met. Groundwater or water pumped from isolated dewatering areas released back to Stevens Creek shall not exceed 110 percent of the ambient turbidity of the receiving water, if receiving water turbidity is greater than 50 Nephelometric Turbidity Units (NTU), or 5 NTU above ambient turbidity if the ambient turbidity is less than or equal to 50 NTU; and groundwater cannot be discharged to Stevens Creek unless it has a pH in the range of 6.5 to 8.5.
- All construction work within the banks of Stevens Creek shall be restricted to the dry season between April 15 and October 15.

1.3.2 Invasive Weeds

To avoid or minimize the introduction or spread of noxious weeds, landscaping would be designed with native species (with the possible exception of lawn areas). Invasive plants would not be used in any landscaping. Any imported soil used for landscaping must be certified as weed-free. Similarly, any erosion-control structures that contain hay or other dried plant material (e.g., hay bales) must be certified as weed-free. Any construction equipment operating within 250 ft of jurisdictional wetlands or other sensitive habitats would be washed off-site to remove potential weed seeds prior to use in this area.

1.3.3 Heritage Trees

Trees that may be removed during Project implementation will be surveyed by a qualified arborist to document health, structure, size, species, and other relevant data, including potential qualification as heritage trees. The arborist will prepare a report with the data collected during the tree survey, which will be used to develop a tree preservation plan in accordance with the City's ordinances and subject to City approval. The Project will implement the tree preservation plan to avoid impacts on regulated trees, where possible.

1.3.4 Riparian Trees

The Project will implement the following measures to minimize impacts on riparian trees:

- The project will be designed to minimize impacts to riparian habitat to the maximum extent practicable.
- Trees to be removed as determined by the qualified arborist will be clearly marked on Project plans, as will trees to be avoided. Trees to be avoided will be protected during construction by a tree protection zone fence placed around the dripline of the tree, or in another orientation as determined by the qualified arborist.

1.3.5 Wetland and Riparian Habitats

The Project will implement the following measures to avoid and minimize impacts on riparian and wetland habitats:

- All temporary and permanent effects on wetland and riparian habitats within the bed and banks of Stevens Creek will be avoided to the extent feasible. If any impacts are unavoidable, such impacts will be limited to the absolute minimum needed to perform the proposed work.
- All construction staging shall be above top of bank and outside the associated riparian canopy of Stevens Creek. All bank stabilization, abutments, and piers will be designed to the smallest area required to provide bridge support.

1.3.6 CCC Steelhead and Central Valley Fall-run Chinook Salmon

Measures to avoid and minimize impacts on aquatic habitats and water quality will be implemented as described above. If Project work will occur within the bed and banks of Stevens Creek, implementation of the following measures will minimize the potential for effects on the Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*) as a result of the Project:

- All construction activities that require dewatering or pile driving within Stevens Creek will be limited to the summer low flow period (June 1 to October 15).
- Night lighting on the bridge will be minimized, with the exception of lighting needed for safety and compliance with regulations. To the extent feasible, all lighting will be directed at the bridge deck (not outwards into natural areas).
- Before any construction activities begin, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CCC steelhead, the Central Valley fall-run Chinook salmon, and their habitat, the importance of these species, the general measures that are being implemented to conserve them as they relate to the Project, their legal protections, and the boundaries within which the Project may be accomplished.
- If cofferdams are necessary, then during cofferdam installation, a block net will be positioned at the upstream end of the reach to be dewatered. Where feasible (e.g., where the channel configuration permits), and where sufficient water to support fish is present downstream from the dewatering area, two biologists will then walk from this net in a downstream direction while carrying a block net or nets in order to encourage fish to move downstream and out of the area to be dewatered. The downstream block net will then be positioned to prevent fish from re-entering the dewatering area. The coffer dam will then be constructed. If insufficient water is present downstream from the dewatering area to support fish, then fish will be relocated to another location providing suitable conditions for fish as described in the next bullet.
- A qualified biologist will be present during dewatering to relocate all native fish to a suitable habitat location as needed. Within the area to be dewatered, any fish remaining in the work area will be captured by seine,

dip net, and/or electrofisher, and then transported and released to suitable in stream locations outside of the work area. All captured fish will be kept in cool, shaded, aerated water protected from excessive noise, jostling, or overcrowding any time they are not in the stream, and fish will not be removed from this water except when released. To avoid predation, the biologist will use at least two containers to separate young-of-year fish from larger age-classes and other potential aquatic predators. Captured salmonids will be relocated, as soon as possible, to an instream location in which suitable habitat conditions are present to allow for adequate survival of transported fish and fish already present.

- All pumps used for dewatering where salmonids may be present will be screened according to the National Marine Fisheries Service (NMFS) criteria for juvenile salmonids.
- Following construction of the temporary cofferdam, water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that will allow flow to resume with the least disturbance to the substrate.
- According to the Fisheries Hydroacoustic Working Group (2008), fish may be injured or killed when underwater pile driving sound levels exceed the peak threshold of 206 decibels (dB) or cumulatively exceeds 187 dB sound exposure level. With conservative estimates, only where impact pile driving occurs within 20 ft of aquatic habitat in Stevens Creek could underwater sound levels cumulatively exceed the 187 dB sound exposure level threshold. Thus, the Project will site the dewatering area to extend a minimum of 30 ft from pile driving locations to avoid the injury or death of special-status fish due to pile driving. No pile driving will occur within 30 ft of aquatic habitat in Stevens Creek.

1.3.7 Western Pond Turtle

If initial vegetation, woody debris, or tree removal or other initial ground-disturbing activities will begin during the western pond turtle (*Actinemys marmorata*) nesting season (April through July), a qualified biologist will examine the study area for pond turtles and their nests 48 hours before proposed Project activities begin. If impacts within the study area occur in the bed and banks of Stevens Creek, a preconstruction survey for western pond turtles will be conducted within 48 hours prior to the start of work year-round. If a western pond turtle is observed within the work area at any time before or during proposed Project activities, all activities will cease until such time that either (1) the pond turtle leaves the area or (2) the qualified biologist can capture and relocate the animal to suitable habitat away from construction activity.

1.3.8 Burrowing Owl

- Prior to construction, staging, or site preparation activities, a qualified biologist will conduct surveys of appropriate burrowing owl (*Athene cunicularia*) habitat (i.e., ruderal grassland/ornamental savanna and non-native grassland areas). Because burrowing owls occupy burrows year-round, the survey will be required regardless of the time of year. The biologist will coordinate with City and NASA biologists prior to conducting surveys.

- The survey will be conducted consistent with the California Department of Fish and Wildlife's (CDFW's) 2012 Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). Within 14 days prior to the start of ground disturbance, an initial habitat assessment and survey will be conducted by a qualified biologist to determine if suitable burrowing owl habitat is present in a given area. During the initial site visit, a qualified biologist will survey the entire activity area and (to the extent that access allows) the area within 250 ft of the site for suitable burrows that could be used by burrowing owls for nesting or roosting. If no suitable burrowing owl habitat (i.e., grasslands with burrows of California ground squirrels) is present within a given area, no additional surveys will be required. If suitable burrows are determined to be present within 250 ft of work areas, a qualified biologist will conduct an additional survey to investigate each burrow within the survey area for signs of owl use and to determine whether owls are present in areas where they could be affected by proposed activities. This final survey shall be conducted within the 24-hour period prior to the initiation of Project activities, including staging, in any given area. If no burrowing owls are detected, any burrows within 250 ft can be filled (with permission of applicable property owners) to discourage occupation after construction starts.
- If construction work is conducted during the non-nesting season (September 1 to January 31), a 160-ft buffer zone shall be maintained around the occupied burrow(s), if feasible. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury or mortality of individual owls, or else the owls should be passively relocated as described below. If impacts to the occupied burrow are unavoidable, a qualified biologist may, with notification to CDFW, install one-way exclusion doors over the burrows to allow wintering birds to exit but not return to that location.
- If work is conducted in the breeding season (February 1 to August 31) a 250-ft buffer, within which no new Project-related activities will be permissible, will be maintained between Project activities and occupied burrows. Owls present between 1 February and 31 August will be assumed to be nesting, and the 250-ft protected area will remain in effect until 31 August. If monitoring evidence indicates that the owls are no longer nesting or the young owls are foraging independently, the buffer may be reduced or the owls may be relocated prior to August 31, in consultation with the CDFW.
- Any owls occupying the Project site are likely habituated to frequent human disturbances. As a result, they may exhibit a tolerance of greater levels of human disturbance than owls in more natural settings, and work within the standard 250-ft buffer during the nesting season may be able to proceed without disturbing the owls. Therefore, if nesting owls are determined to be present on the site, and Project activities cannot feasibly avoid disturbance of the area within 250 ft of the occupied burrow during the nesting season (i.e., February 1 through August 31) due to other seasonal constraints, a qualified biologist will be present during all activities within 250 ft of the nest to monitor the owls' behavior. If in the opinion of the qualified biologist, the owls are unduly disturbed (i.e., disturbed to the point of harm or reduced reproductive success), all work within 250 ft of the occupied burrow will cease.

1.3.9 Nesting Birds

The Project will implement the standards and guidelines presented in Section 5.3 of the Precise Plan, "Nesting Bird Protection," provided in Section 1.2.2 above, during Project construction (City of Mountain View 2014a).

1.3.10 Hoary Bat Maternity Roosts

A qualified biologist will examine all trees that could contain potential maternity roosts of hoary bats (*Lasiurus cinereus*) within 100 ft of proposed construction activities. Surveys for maternity roosts of hoary bats should take place no more than 30 days before any initial vegetation, woody debris, or tree removal or other initial ground-disturbing activities during the period of April 1 to August 31. If a hoary bat with young is observed roosting, a buffer will be established by a qualified biologist (typically 50 ft, or as otherwise determined dependent upon the habitat present and proposed level of disturbance).

1.3.11 Bird Strikes

The La Avenida Street bridge would be designed to minimize the potential for bird strikes; it would not include highly reflective surfaces, transparent surfaces, or features such as small wires or netting that could injure birds. No power lines shall be suspended above the bridge deck. Night lighting on the bridge will be minimized, with the exception of lighting needed for safety and compliance with regulations. To the extent feasible, all lighting will be directed at the bridge deck (not outwards into natural areas).

If the design for the La Avenida Street bridge incorporates suspension cables, spiral-shaped BFDs will be installed on all suspension cables on the La Avenida Street bridge as described in Section 1.2.1 above to reduce the risk of avian collisions with the proposed bridge.

Section 2. Methods

2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates biologists reviewed the 2012 IS/EA (ICF International 2012); updated Project description information; aerial photos and topographic maps; a U.S. Fish and Wildlife Service (USFWS) species list for the Mountain View, California 7.5-minute USGS quadrangle and for Santa Clara County (USFWS 2016); the CDFW's California Natural Diversity Database (CNDDB) (2016); Calflora (2016); the *Breeding Bird Atlas of Santa Clara County* (Bousman 2007a); and the City's North Bayshore Precise Plan (City of Mountain View 2014a) and its Environmental Impact Report (City of Mountain View 2014b) in order to assess the current distribution of special-status plants and animals in the Project vicinity. For the purposes of this report, the general site vicinity is defined as the area within a 5-mile (mi) radius.

The background review included a search for plant species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, and 3 listed in the current California Native Plant Society (CNPS) Rare Plant Inventory (2016) and CNDDB (2016) that occur in the Project region. For the purposes of this search, the Project region was defined as the *Mountain View, California* USGS 7.5–minute quadrangle and eight surrounding quadrangles (*Redwood Point, Newark, Niles, Milpitas, San Jose West, Cupertino, Mindego Hill,* and *Palo Alto*). Quadrangle-level records are not consistently maintained for CRPR 4 species, so we also conducted a search of CNPS records for CRPR 4 species occurring in Santa Clara County (CNPS 2016). In addition, the CNDDB (2016) was queried for natural communities of special concern that occur within the Project region.

2.2 Site Visits

H. T. Harvey & Associates wildlife ecologist Robin Carle, M.S., conducted a reconnaissance-level survey of the Project area on June 10, 2016, and plant ecologists Kelly Hardwicke, Ph.D., and Greg Sproull, M.S., conducted a reconnaissance-level field survey of the Project area on June 17, 2016. The purpose of these surveys was to provide a Project-specific impact assessment for implementation of the proposed Project, as described above. Specifically, these surveys were conducted to: (1) assess existing biotic habitats and general wildlife communities in the study areas, (2) assess the site for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional habitats, such as waters of the U.S. and riparian habitat. In addition, H. T. Harvey & Associates ecologists are very familiar with the Project area from previous project work and numerous birding trips to the area since the early 1990s.

Section 3. Regulatory Setting

Biological resources within the Project area are regulated by a number of federal, state, and local laws and ordinances. The regulatory setting for the Charleston Road study area is provided in the 2012 IS/EA (ICF International 2012). Since the preparation of the IS/EA, the City has adopted the North Bayshore Precise Plan, and the Precise Plan Area overlaps the westernmost portions of both the Charleston Road and La Avenida Street study areas (City of Mountain View 2014a). Thus, the elements of the Precise Plan described in Section 3.3.3 apply to a portion of the Charleston Road study area in addition to the La Avenida Street study area (as indicated in that section). Otherwise, the laws and ordinances described below are characterized specific to the La Avenida Street study area.

3.1 Federal Regulations

3.1.1 Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of *waters of the United States*, which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in nontidal waters, U.S. Army Corps of Engineers (USACE) jurisdiction extends to the ordinary high-water mark, which is defined in Title 33, Code of Federal Regulations, Part 328.3. The USACE and the U.S. Environmental Protection Agency define *wetlands* in Title 33, Code of Federal Regulations, Part 323.2 as "areas defined as an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions." The boundaries of wetlands that fall under USACE jurisdiction are delineated using an approach that relies on identification of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology indicators.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material into waters of the United States; where the material has the effect of either replacing any portion of waters of the United States with dry land, or changing the bottom elevation of these features. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the CWA. The State Water Resources Control Board, together with the RWQCBs), implement water quality certification in California.

Project Applicability. Habitats mapped within the La Avenida Street study area that comprise waters of the U.S. are seasonal wetland, perennial channel, and emergent wetland habitats associated with Stevens Creek. All such areas would fall under USACE jurisdiction.

3.1.2 Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects listed wildlife species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands or if the Project requires a federal action, such as a CWA Section 404 fill permit from the USACE.

The USFWS has jurisdiction over federally listed threatened and endangered wildlife species under the FESA, while the NMFS has jurisdiction over federally listed, threatened and endangered, marine species and anadromous fish.

Project Applicability. No federally listed or candidate plant species occur in the La Avenida Street study area. The CCC steelhead, a federally threatened species, is known to occur in Stevens Creek within the study area. No additional federally listed or candidate animal species occur in the study area.

3.1.3 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of FMPs to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish EFH in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NMFS.

Project Applicability. The Pacific Fisheries Management Council has designated EFH for one FMP within the La Avenida Street study area: the Pacific Coast Salmon FMP (Pacific Fishery Management Council 2016). Of the salmon that represent this FMP, the Central Valley Fall-run Chinook salmon is the only species that may occur within the study area. Although Chinook salmon are not known to be present within Stevens Creek, the study area is considered EFH because it is accessible to the species.

3.1.4 Federal Migratory Bird Treaty Act

The federal MBTA (16 U.S.C., Section 703, Supp. I, 1989) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include all native birds and certain game birds (e.g., turkeys and pheasants; USFWS 2005). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA, as

described by the Department of the Interior in its April 16, 2003 Migratory Bird Permit Memorandum, is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

Project Applicability. All native bird species that occur in the La Avenida Street study area are protected by the MBTA.

3.2 State Regulations

3.2.1 Porter-Cologne Water Quality Control Act

The State Water Board works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny Projects that could affect waters of the State. Their authority comes from CWA and the State's Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act broadly defines waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of Waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the State include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

Project Applicability. Waters of the State within the La Avenida Street study area may include perennial channel, seasonal wetland, and emergent wetland habitats in Stevens Creek as well as all other areas along Stevens Creek up to top of bank, and any riparian forest canopy associated with trees that can contribute deadfall to the channel.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA; Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the CDFW has jurisdiction over state-listed species. The CDFW regulates activities that may result in "take" of individuals listed under the Act (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

Project Applicability. No state-listed or candidate plant or wildlife species occur in the La Avenida Street study area.

3.2.3 California Environmental Quality Act

The CEQA and its Guidelines provide guidance in evaluating impacts of projects to biological resources and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project." Under CEQA Guidelines Section 15065, a project's effects on biotic resources are deemed significant where the Project would:

- "substantially reduce the habitat of a fish or wildlife species"
- "cause a fish or wildlife population to drop below self-sustaining levels"
- "threaten to eliminate a plant or animal community"
- "reduce the number or restrict the range of a rare or endangered plant or animal"

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines provides a checklist of other potential impacts on consider when analyzing the significance of Project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the Project would:

- "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and or U.S. Fish and Wildlife Service"
- "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
- "have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act"
- "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites"
- "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"
- "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan"

Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California

Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a Project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed a CRPR system for plant species of concern in California. Vascular plants included on these lists are defined as follows:

Rank 1A: Plants considered extinct.

Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.

Rank 2A: Plants considered extinct in California and elsewhere.

Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere.

Rank 3: Plants about which more information is needed - review list.

Rank 4: Plants of limited distribution - watch list.

These rankings are further described by the following threat code extensions:

1: seriously endangered in California.

2: fairly endangered in California.

3: not very endangered in California

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing on List 1B or List 2 are, in general, considered to meet the CEQA's Section 15380 criteria, and adverse effects to these species may be considered significant. Impacts on plants that are listed by the CNPS on List 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those on List 1B or List 2, impacts on them are less frequently considered significant.

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. The CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities

in its Rarefind database (CNDDB 2016). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings are a reflection of the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (CDFG 2007):

G1/S1: Less than 6 viable occurrences or less than 2000 ac.
G2/S2: Between 6 and 20 occurrences or 2000 to 10,000 ac.
G3/S3: Between 21 and 100 occurrences or 10,000 to 50,000 ac.
G4/S4: The community is apparently secure, but factors and threats exist to cause some concern.
G5/S4: The community is demonstrably secure to ineradicable because of being common throughout the world (for global rank) or the state of California (for state rank).

State rankings are further described by the following threat code extensions:

S1.1: Very threatened
S1.2: Threatened
S1.3: No current threats known

In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 2009). These alliances are also ranked according to NatureServe's standard methodology (CDFG 2007). If an alliance is marked G1–G3, all of the vegetation associations within it will also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFW 2010). Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations).

Project Applicability. All impacts on biological resources are being considered during CEQA review of the Project in the context of this biological resources report.

3.2.4 California Fish and Game Code

The California Fish and Game Code includes regulations governing the use of, or impacts on, many of the state's fish, wildlife, and sensitive habitats. The CDFW exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to provisions of Sections 1601–1603 of the Fish and Game Code. The Fish and Game Code requires a Streambed Alteration Agreement (SAA) for the fill or removal of material within the bed and banks of a watercourse or waterbody and for the removal of riparian vegetation.

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and

other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Streams and riparian habitat are defined in Title 14, California Code of Regulations, Section 1.72, and California Fish and Game Code Section 2786; respectively. Using these definitions, the lateral extent of a stream and associated riparian habitat would fall under the jurisdiction of CDFW. These areas can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds." Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, an SAA must be prepared. An SAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with the CEQA. The applicant may then proceed with the activity in accordance with the final SAA.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example, Fish and Game Code Sections 3503, 2513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (e.g., eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Non-game mammals are protected by Fish and Game Code Section 4150, and other sections of the Code protect other taxa.

Project Applicability. CDFW riparian jurisdiction occurs in the La Avenida Street study area within areas mapped as perennial channel, seasonal wetland, emergent wetland, and all areas along Stevens Creek up to the top of bank and the outer edge of the riparian forest canopy above the top of bank.

All native bird species that occur in the La Avenida Street study area are protected by the state Fish and Game Code. As described in Section 1.3.9, the Project will take measures to avoid impacts on active bird nests per California Fish and Game Code Sections 3503, 3513, and 3800. Native mammals and other species in the study area are also protected by the Code.

3.3 Local Regulations

3.3.1 City of Mountain View Heritage Tree Ordinance

The City Code Chapter 32, Article II, defines a "Heritage Tree" as any tree that has a trunk with a circumference of 48 inches or greater measured at 54 inches above natural grade. Multi-trunk trees are measured just below the first major trunk fork. However, for trees within the oak (*Quercus* spp.), redwood (*Sequoia* spp.), and cedar (*Cedrus* spp.) genera the definition is more restrictive, and trees are considered "Heritage Trees" if they have reached a circumference of twelve inches or greater measured at 54 inches above natural grade.

Project Applicability. Several heritage coast live oak (*Quercus agrifolia*) and blue oak (*Quercus douglasii*) trees are present within the La Avenida Street study area, and many heritage trees with a circumference of 48 inches or greater are present on federal lands east of Stevens Creek. If heritage trees would be removed from the La Avenida Street study area, a Heritage Tree Removal Permit would be required.

3.3.2 City of Mountain View General Plan

The Mountain View 2030 General Plan guides future growth, development, and community and habitat values in the City through 2030 (City of Mountain View 2012). Particular General Plan goals and policies related to biological resources consist of the following:

- Infrastructure and Conservation (INC) Goal 5-5: Effective and comprehensive programs utilizing water use efficiency, water conservation, and alternative water supplies to reduce per capita potable water use.
  - INC 5.5: Landscape efficiency. Promote water-efficient landscaping including drought-tolerant and native plants, along with efficient irrigation techniques.
- Goal INC-8: An effective and innovative stormwater drainage system that protects properties from flooding and minimizes adverse environmental impacts from stormwater runoff.
  - INC 8.4: Runoff pollution prevention. Reduce the amount of stormwater runoff and stormwater pollution entering creeks, water channels and the San Francisco Bay through participation in the Santa Clara Valley Urban Runoff Pollution Prevention Program.
  - INC 8.5: Site-specific stormwater treatment. Require post-construction stormwater treatment controls consistent with the Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit requirements for both new development and redevelopment projects.
  - INC 8.6: Green streets. Seek opportunities to develop green streets and sustainable streetscapes that minimize stormwater runoff, using techniques such as on-street bio-swales, bio-retention, permeable pavement or other innovative approaches.
  - INC 8.7: Stormwater quality. Improve the water quality of stormwater and reduce flow quantities.
- Goal INC-16: Rich and biologically diverse ecological resources which are protected and enhanced.
  - INC 16.1: Natural areas. Work with regional agencies to protect and enhance natural areas.

- INC 16.2: Shoreline at Mountain View. Manage Shoreline at Mountain View Regional Park to balance the needs of recreational, open space, habitat, commercial and other uses.
- INC 16.3: Habitat. Protect and enhance nesting, foraging, and other habitat for special-status species and other wildlife.
- INC 16.4: Invasive species. Contain and reduce the amount of invasive species.
- INC 16.5: Wetland habitat. Collaborate with and support regional efforts to restore and protect wetlands, creeks, tidal marshes and open-water habitats adjacent to San Francisco Bay.
- INC 16.6: Built environment habitat. Integrate biological resources, such as green roofs and native landscaping, into the built environment.

- Goal INC-19: Effective and ecologically sensitive programs to control invasive species and plants.
  - INC 19.1: Municipal integrated pest management. Control and prevent invasive weeds and pests using integrated pest management on all City property, including the following principles:
    - A focus on control of pests at established acceptable levels, instead of eradication.
    - Preventive cultivation practices appropriate for local conditions.
    - Monitoring.
    - Mechanical controls such as hand-picking, barriers, traps and disruption.
    - Biological controls such as beneficial insects or biological insecticides.
    - Chemical controls only as required or during targeted times during a pest's life cycle.
  - INC 19.2: Herbicides and pesticides. Discourage the use of herbicides and pesticides on City property.
  - INC 19.3: Citywide integrated pest management. Encourage and educate residents and businesses to implement integrated pest management principles and reduce the use of pesticides and herbicides.
- Parks and Open Space (POS) Goal 3: Open space areas with natural characteristics that are protected and sustained.
  - POS 3.1: Preservation of natural areas. Preserve natural areas, creeks and Shoreline at Mountain View Regional Park primarily for low-intensity uses. In special circumstances more active uses may be permitted if the overall natural character of the larger area is retained.

Project Applicability. The 2030 General Plan is currently in effect in the City, and includes all areas west of Stevens Creek in the La Avenida Street study area. Therefore, all portions of the study area west of Stevens Creek will remain consistent with the General Plan's goals. The Environmental Impact Report for the 2030 General Plan (LSA Associates Inc. 2012) evaluated the impacts of the General Plan on biological resources, including potential adverse effects of development but also taking into consideration the aforementioned goals and policies of the General Plan related to the protection and enhancement of biological resources.

3.3.3 North Bayshore Precise Plan

The City adopted the Precise Plan to implement the 2030 General Plan's policy in this area (City of Mountain View 2014a). The Habitat Overlay Zones (HOZ) provide standards and guidelines to regulate site development

adjacent to sensitive habitat. The intent is to protect sensitive habitat by guiding building placement adjacent to high-value habitat locations, limiting new impervious surface, minimizing light pollution, and guiding landscape design. There are three distinct HOZ types within and adjacent to North Bayshore: burrowing owl; egret rookery; and open water, creeks, and storm drain facilities. For each HOZ type, there are requirements for site development that apply to all new construction and additions in that zone. The size of the HOZ varies depending on the importance and sensitivity of the habitat, with larger buffers adjacent to burrowing owl habitat and smaller buffers adjacent to Permanente Creek. All new construction proposed within an overlay zone shall comply with the overlay zone standards. The Precise Plan Environmental Impact Report tiered off the General Plan Environmental Impact Report, and thus the Precise Plan incorporates habitat protection and enhancement elements of the General Plan.

The Precise Plan prohibits the following activities within an HOZ for open water, creeks, and storm drain facilities, which applies to the Project:

- Subject to certain exceptions, construction of new buildings.
- Installation of new impervious surfaces closer to the HOZ boundary than existing impervious surfaces, or an increase in impervious surface within the HOZ itself.

In addition, the Precise Plan requires the following criteria of projects occurring within or adjacent to an open water, creek, and storm drain facilities HOZ:

- Bioswales shall be constructed for any new or reconstructed impervious surface draining directly toward creek areas to treat runoff before it enters a creek or open water.
- All woody vegetation planted in the HOZ shall consist of native species or non-natives that provide valuable resources (e.g., food, structure, or cover) for native wildlife.
- Within the HOZ, outdoor lighting shall be low intensity and shall utilize full cutoff fixtures to reduce the amount of light reaching these sensitive habitats.

Project Applicability. The westernmost portion of the Charleston Road study area, including all areas west of the PG&E transmission line corridor, falls within the boundaries of the Precise Plan area. A small portion of the Charleston Road study area is located within the egret rookery HOZ, but no portions of this study area are located within the HOZ for Stevens Creek.

All portions of the La Avenida Street study area west of the Stevens Creek Trail fall within the boundaries of the Precise Plan area. All areas of the La Avenida Street study area west of Stevens Creek and within 200 ft of Stevens Creek are located within the open water, creeks, and storm drain facilities HOZ for Stevens Creek.

Section 4. Environmental Setting

The 2012 IS/EA described the environmental setting for the Charleston Road study area. The majority of the environmental setting description for the Charleston Road study area still applies, and we are not repeating that information here. However, we are providing updates to two biotic habitats within the Charleston Road study area (developed and emergent wetland) that have changed since the preparation of the 2012 IS/EA, as well as occurrence information for three special-status species (the California Ridgway's rail, northern harrier [*Circus cyaneus*], and San Francisco common yellowthroat [*Geothlypis trichas sinuosa*]) that has changed or for which new information is available since the preparation of the 2012 IS/EA. Otherwise, this section focuses on the environmental setting for the La Avenida Street study area.

4.1 General Project Area Description

The Project area is located in the City of Mountain View in Santa Clara County, California (Figure 1). The annual temperature of the region ranges from a low of 49.8 ºF to a high of 69.1 ºF, and annual precipitation is approximately 15.4 inches (PRISM Climate Group 2016). The Project area is composed of two study areas, the Charleston Road study area and the La Avenida Street study area. Water in Stevens Creek originates in the Santa Cruz Mountains above Stevens Creek Reservoir, and flows south to north through the Project area directly to the San Francisco Bay. The Project is located in the Lower Peninsula watershed.

The Charleston Road study area consists of flat areas on either side of the bed and levee banks of Stevens Creek. The maximum elevation in the study area is approximately 24 ft (NAVD88) at the top of the levees and the minimum elevation is approximately 9 ft (NAVD88) in the bed of Stevens Creek. Much of the study area is developed or disturbed by nursery operations. Stevens Creek flows south-to-north through approximately 280 ft of the study area, and existed as two channels during the June 2016 survey (which occurred during the low-flow period). Lands surrounding the study area include open lands owned by NASA Ames Research Center and leased by Google to the east; SCVWD lands along Stevens Creek; lands owned by Google and HCP Life Science REIT, Inc. to the west; and the City's Charleston Retention Basin, also to the west. Since the preparation of the 2012 IS/EA, the portion of the study area located east of Stevens Creek has been graded and disturbed.

The La Avenida Street study area is mostly flat above the banks and slopes of Stevens Creek. Unlike the Charleston Road study area, Stevens Creek is not leveed within the La Avenida Street study area. The maximum elevation in the study area is approximately 29 ft (NAVD88) at the top of bank and the minimum elevation is approximately 12 ft (NAVD88) within the bed of Stevens Creek. Stevens Creek flows south-to-north through approximately 590 ft of the study area, and diverges into two perennial channels at the approximate midpoint of the study area around a large gravel bar. Lands surrounding the study area include lands owned by Microsoft along La Avenida Street, SCVWD lands along Stevens Creek, the 63rd Regional Support Command Headquarters to the northeast, and other federally owned lands to the east.

4.2 Soils

The Charleston Road study area has three mapped soil units in the Project area (Natural Resource Conservation Service 2016): (1) Campbell silt loam, 0–2% slopes, protected (82% of the total); (2) Urbanland-Hangerone complex, 0–2% slopes, drained (14% of the total); and (3) Urbanland-Campbell complex, 0–2% slopes, protected (4% of the total). The La Avenida Street study area has two mapped soil units in the Project area (Natural Resource Conservation Service 2016): (1) Urbanland-Campbell complex, 0–2% slopes, protected (66% of the total); and (2) Urbanland-Hangerone complex, 0–2% slopes, drained (33% of the total). The "protected" soil units have predominantly silty loam textures and are poorly drained, whereas the "drained" soil types have predominantly clay textures. All soils that underlie the site are clay and silt loam and have the potential to be slightly saline; none are classified as hydric (U.S. Soil Conservation Service 1992).

4.3 Biotic Habitats and Associated Wildlife at Charleston Road

Biotic habitats within the Charleston Road study area are described in the 2012 IS/EA (ICF International 2012). Our reconnaissance-level field survey determined that the extent and types of the majority of these biotic habitats have not changed substantially since 2012, with the exception of (1) the area east of the Stevens Creek levee, where recent development disturbance has occurred, and (2) much of the open aquatic habitat in Stevens Creek, which has been colonized by emergent wetlands since 2012. We have provided a map of the habitats in the Charleston Road study area that is updated to reflect 2016 site conditions (Figure 3), and descriptions for the two updated biotic habitats (disturbed and emergent wetland) are provided below. Table 1 provides a summary of the updated plant community acreages in the Charleston Road study area for 2016.

Table 1. 2016 Updated Habitat Acreages within the Charleston Road Study Area

Habitat Type	Approximate Area (ac)
Developed	8.2
Disturbed	6.0
Emergent Wetland	0.2
Non-native Grassland	0.8
Riparian Forest	0.3
Total	**15.5**

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Figure 3. Charleston Road Study Area Habitat Map
Stevens Creek Crossings Project Biological Resources Report (3640-02)
September 2016

4.3.1 Developed

This section describes the developed habitat located east of Stevens Creek in the Charleston Road study area. This area was formerly mapped as coyote brush scrub and non-native grassland in 2012 (ICF International 2012), but has since been disturbed by grading that was in progress at the time of the 2016 site visit.

Vegetation. Within the new area mapped as developed within the Charleston Road study area, there is very little vegetation. The area has been cleared and is now used as a materials storage area, with high levels of traffic keeping the area denuded and compacted.

Wildlife. The developed habitat east of Stevens Creek in the La Avenida Street study area is of relatively low value to wildlife due to ongoing disturbance by grading. However, this area provides foraging opportunities for some urban-adapted wildlife such as American crows (*Corvus brachyrhynchos*) and Brewer's blackbirds (*Euphagus cyanocephalus*), which often forage in recently disturbed areas. Common mammal species such as native raccoons (*Procyon lotor*) and nonnative Norway rats (*Rattus norvegicus*), black rats (*Rattus rattus*), and feral cats (*Felis catus*) will forage opportunistically in this habitat as well, although little food for such species is currently present owing to disturbance levels.

4.3.2 Emergent Wetland

Emergent wetland habitat in Stevens Creek in the Charleston Road study area was mapped only in the eastern channel in 2012 (ICF International 2012), but it has since expanded to include the western channel, which was mapped as perennial channel in 2012, as well. This section describes the vegetation and wildlife that occur within the emergent vegetation habitat in the western channel.

Vegetation. In 2016, the emergent wetland habitat is dominated by a preponderance of brackish-tolerant emergent wetland species such as sturdy bulrush (*Schoenoplectus robustus*). A small open water channel (1-2 ft wide) remains in the center of the western channel, but the majority of the low-flow cross section is dominated by a thick cover of wetland vegetation. This area experiences some limited tidal influence (e.g., during extreme high tides) as evidenced by the species composition of the emergent vegetation; however, the Charleston Road study area is located entirely above the elevation of the high tide line (7.95 ft NAVD88), which is established based on more normal tide heights. In lower tidal reaches near south San Francisco Bay, sturdy bulrush and other brackish-tolerant bulrushes often dominate, while in areas with little to no tidal influence, cattail (*Typha* sp.) becomes increasingly dominant. This channel appears to be actively managed for flood control, and it is likely that flood control dredging had occurred more recently in 2012, leaving a wider area of fully open channel in this area than observed in 2016.

Wildlife. Emergent wetland habitat typically provides valuable habitat for wildlife species. However, the habitat along the western channel is fairly narrow, with limited emergent vegetation. Wildlife species that inhabit adjacent riparian forest and non-native grassland habitats are expected to forage in this emergent wetland, but the vegetation is not extensive enough to support wetland-specialist birds. Amphibians such as the native Sierran chorus frog (*Pseudacris sierra*) and nonnative bullfrog (*Lithobates catesbeianus*) will breed and forage in this

habitat. Some coarse woody debris and brush is located over this channel, which provides foraging opportunities for invertebrates, birds, and mammals that occur in adjacent habitats.

4.4 Biotic Habitats and Associated Wildlife at La Avenida Street

Reconnaissance-level field surveys identified seven general biotic habitat types within the La Avenida Street study area: non-native grassland/ornamental savanna, developed, non-native grassland, seasonal wetland, riparian forest, perennial channel, and emergent wetland. Table 2 provides a summary of the plant community acreages in the study area, and Figure 4 shows the locations of each habitat type. A list of the plant species observed at the site on June 17, 2016 is provided as Appendix A. Appendix B contains representative photos of the study area.

Table 2. Habitat Acreages within the La Avenida Street Study Area

Habitat Type	Approximate Area (ac)
Non-native Grassland/Ornamental Savanna	4.6
Developed	4.3
Non-native Grassland	2.3
Seasonal Wetland	0.5
Riparian Forest	0.4
Perennial Channel	0.2
Emergent Wetland	0.1
Total	**12.4**

4.4.1 Non-native Grassland/Ornamental Savanna

The non-native grassland/ornamental savanna habitat in the La Avenida Street study area is part of a larger area of open space, formerly a military barracks. This area now consists of ruderal grasslands, which are periodically mown, and widely spaced mature trees, most of which are non-native.

The non-native grassland/ornamental savanna habitat covers approximately 4.6 ac of the eastern section of the La Avenida study area (Table 2; Figure 4; Photo 1, Appendix B). A gravel trail and a chain-link fence borders this area along its northern edge. At the time of the June 2016 survey, this area was disturbed by recent mowing and work associated with a large gravel stockpile in the adjacent developed habitat. The non-native grassland/ornamental savanna is generally flat.

Vegetation. Vegetation cover occurs in irregular patterns, as some areas are generally bare whereas other areas have high densities of non-native annual herbs, such as black mustard (*Brassica nigra*) and wild radish (*Raphanus sativus*). The herbaceous layer of the non-native grassland/ornamental savanna is largely dominated by non-native wild slender oats (*Avena barbata*) and a patchy mosaic of black mustard and wild radish. Other common

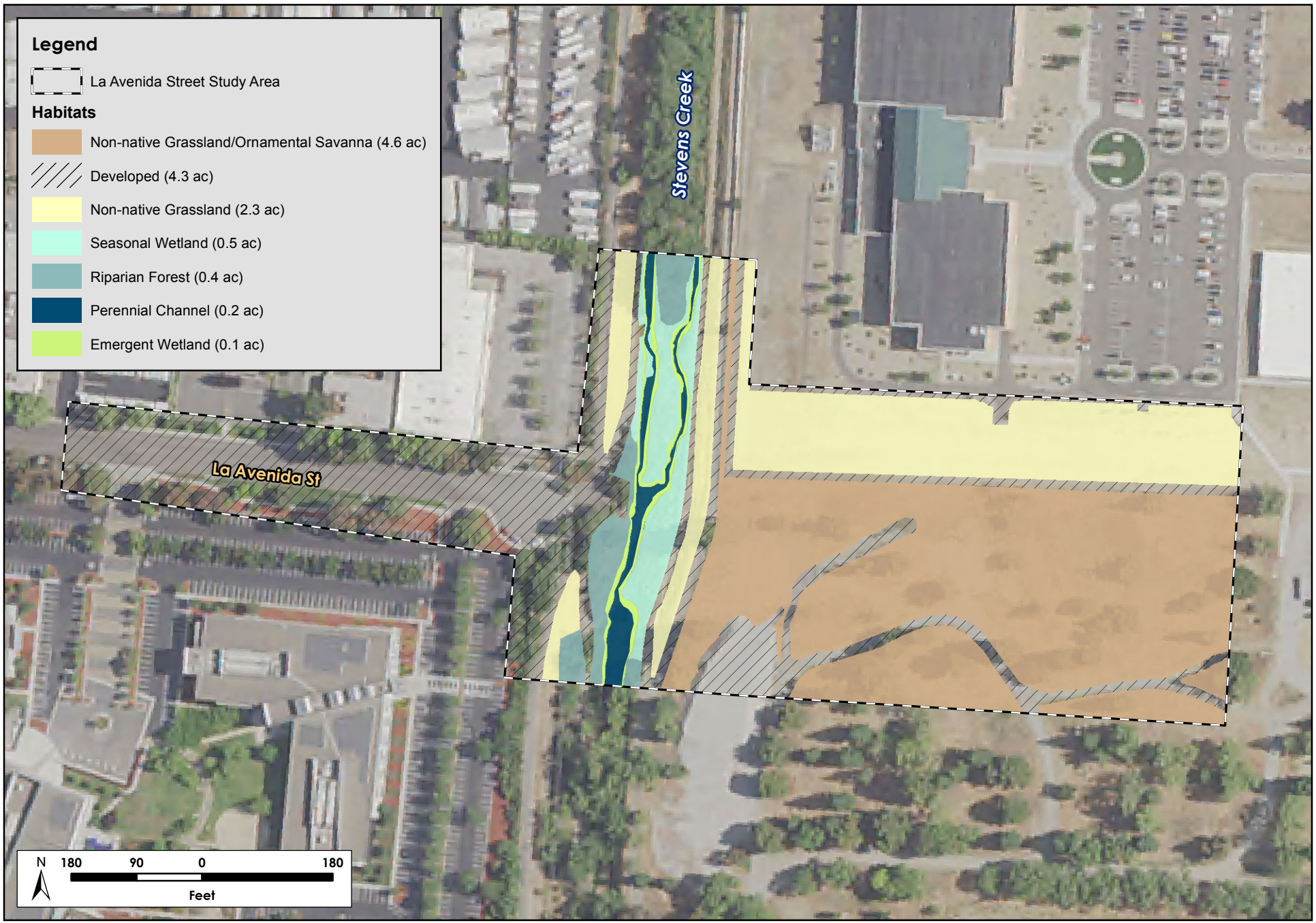

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Figure 4. La Avenida Street Study Area Habitat Map
Stevens Creek Crossings Project Biological Resources Report (3640-02)
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understory species include bristly oxtongue (*Helminotheca echioides*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum*), cheeseweed mallow (*Malva parviflora*), Cornish mallow (*Lavatera cretica*), bulbous canarygrass (*Phalaris aquatica*), bull thistle (*Cirsium vulgare*), narrowleaf plantain (*Plantago lanceolata*), curly dock (*Rumex crispus*), stinkwort (*Dittrichia graveolens*), salsify (*Tragopogon* sp.), Italian thistle (*Carduus pycnocephalus*) coyote brush (*Baccharis pilularis*), blessed milkthistle (*Silybum marianum*), and Himalayan blackberry (*Rubus armeniacus*). The overstory is relatively sparse (which is why the term "savanna" is used here) and includes primarily ornamental trees such as Italian stone pine (*Pinus pinea*), London planetree (*Platanus hybrida*), privet (*Ligustrum* sp.), red ironbark (*Eucalyptus sideroxylon*), juniper (*Juniperus* sp.), and chokecherry (*Prunus* sp.).

Wildlife. The relatively large extent of this area of non-native grassland/ornamental savanna (relative to typical parks in Mountain View), the structural complexity of the vegetation, and the location of this area adjacent to Stevens Creek allows it to support a diverse avian community. Resident bird species such as the Anna's hummingbird (*Calypte anna*), bushtit (*Psaltriparus minimus*), and California towhee (*Melozone crissalis*) occur on the site year-round. Many cavity-nesting birds are also resident on the site, including the Bewick's wren (*Thryomanes bewickii*), chestnut-backed chickadee (*Poecile rufescens*), and Nuttall's woodpecker (*Picoides nuttallii*). These species nest in cavities in mature trees on the site and forage in these trees year-round. Swallows, especially northern rough-winged swallows (*Stelgidopteryx serripennis*) that nest on nearby bridges, forage for insects over the site during the spring and summer. House finches (*Haemorhous mexicanus*) and lesser goldfinches (*Spinus psaltria*) forage for seeds in grasses, thistles, and trees on the site, and nest in trees on the site or nearby along Stevens Creek. The Cooper's hawk (*Accipiter cooperii*) forages for birds in this habitat and may nest in one of the large trees.

Burrows of California ground squirrels (*Spermophilus beecheyi*) are present throughout this habitat, and black-tailed jackrabbits (*Lepus californicus*) occur here as well. Common reptiles such as the gopher snake (*Pituophis catenifer*) and western fence lizard (*Sceloporus occidentalis*) are also present here.

4.4.2 Developed

There are approximately 4.3 ac of developed habitat in the La Avenida Street study area that include pedestrian and vehicular gravel roads and trails, pedestrian dirt trails, sidewalks, vehicular roads, a barbed wire fence, a gravel stockpile, landscaped areas, and cement community structures (Table 2) (Figure 4). West of Stevens Creek, developed areas encompass landscaped, paved, and gravel areas associated with La Avenida Street, adjacent businesses, the cul-de-sac at the terminus of La Avenida Street, pedestrian trails, and SCVWD access roads along Stevens Creek. On the eastern side of Stevens Creek, developed areas include the SCVWD access roads at the base of the slope and top of bank along Stevens Creek, as well as gravel roads on federal property that lead to a large gravel stockpile. The topography of the developed habitat is generally flat and is heavily used by pedestrians, particularly on the western side of Stevens Creek. A PG&E transmission tower is located on the western side of Creek.

Vegetation. In this habitat type, vegetation varies greatly based on location, with some areas like the roads, trail surfaces, and gravel stockpile largely bare, and other areas containing a mixture of native and non-native

landscaping. Common understory species include Italian ryegrass (*Festuca perennis*), hare barley, cheeseweed mallow, English ivy (*Hedera helix*), prickly lettuce (*Lactuca serriola*), bull thistle, and coyote brush. Planted street trees occur in this habitat along La Avenida street and at its terminus, including planted coast live oak, Peruvian peppertree (*Schinus molle*), blue gum (*Eucalyptus globulus*), and olive trees (*Olea europea*).

Wildlife. The developed and landscaped habitats in the La Avenida Street study area are of relatively low value to wildlife, but provide nesting and foraging opportunities for some urban-adapted birds. Resident native birds such as the Anna's hummingbird, bushtit, lesser goldfinch, American robin (*Turdus migratorius*), house finch, and dark-eyed junco (*Junco hyemalis*) nest and forage in the study area year-round. Migrants and wintering birds such as the white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), yellow-rumped warbler (*Setophaga coronata*), and cedar waxwing (*Bombycilla cedrorum*) will forage in trees and shrubs in the study area during spring, fall, and winter. American crows, which are common in northern Mountain View, often forage for anthropogenic food waste in the study area.

4.4.3 Non-native Grassland

There are approximately 2.3 ac of non-native grassland habitat in the La Avenida Street study area, which includes the steeply sloped banks of Stevens Creek where these do not support riparian forest. This habitat generally parallels the inner edge of Stevens Creek Trail (Table 2; Figure 4; Photo 10, Appendix B). Several culvert or storm drain outlets are located in the non-native grassland habitat on the eastern side of Stevens Creek. The canopy of grasses in this habitat was tall (to 3 ft) in June 2016, and vegetation cover was thick.

Vegetation. The grassland habitat was mapped as "non-native" based on the presence and dominance of non-native slender wild oats, which grow densely in this habitat. Admixtures of other common non-native grassland species grow in sparse patches or as free-standing individuals. Other common herbaceous species include dense weeds and non-native grasses such as Italian thistle, wild radish, sweet fennel (*Foeniculum vulgare*), spreading hedgeparsley (*Torilis arvensis*), ripgut brome, soft brome, bristly oxtongue, black mustard, cheeseweed mallow, bull thistle, orchard grass (*Dactylis glomerata*), stinkwort, and Bermudagrass (*Cynodon dactylon*).

Wildlife. The narrow strips of non-native grassland habitat along the levees of Stevens Creek provide limited habitat value to wildlife species, and the majority of species expected to use these areas are associated with the adjacent riparian habitat along Stevens Creek and/or the adjacent non-native grassland/ornamental savanna habitat to the east. Birds such as house finches and lesser goldfinches will forage on seeds from grasses and thistles in this habitat, and mallards (*Anas platyrhynchos*) that occur in the adjacent aquatic habitat in Stevens Creek may nest in these tall grasses. The tall grass also provides cover for dispersing and foraging mammal species such as raccoons and striped skunks (*Mephitis mephitis*). No burrows of fossorial mammals were observed in this habitat during the 2016 reconnaissance-level survey, and these levees are likely too compacted and/or engineered to provide suitable burrowing substrate. However, small mammals such as the deer mouse (*Peromyscus maniculatus*) and California vole (*Microtus californicus*) may breed and forage in this habitat. Reptiles associated with the adjacent riparian and non-native grassland/ornamental savanna habitats, such as the gopher snake, western fence lizard, and garter snake (*Thamnophis sirtalis*), will forage in this habitat.

4.4.4 Seasonal Wetland

There is approximately 0.5 ac of seasonal wetland habitat on low floodplain benches and mid-channel bars along the Stevens Creek channel in the La Avenida Street study area. These areas differ from emergent wetlands (described below) in that the emergent wetlands are frequently or usually saturated or even inundated year-round, whereas the seasonal wetlands are on higher-elevation areas that are only saturated or inundated during the rainy season when flows are high. During the reconnaissance-level survey in June 2016, the emergent wetland was generally saturated close to the banks and inundated within the main channel, while the seasonal wetlands were located on seasonally dry alluvial deposits. Seasonal wetlands are located between the emergent wetlands and SCVWD access roads on the eastern and western sides of Stevens Creek and between the two divergent channels of Stevens Creek. The topography of the emergent wetland habitat is relatively flat and consists primarily of a tall herbaceous understory, with vegetation measuring up to approximately 4 ft in height in some areas. The seasonal wetland habitat is typically flooded or saturated during the winter months when flows in the creek increase. In some areas of the seasonal wetland habitat, rocky alluvial deposits with little vegetative cover (5–10%) extend into the Stevens Creek channel.

Vegetation. The composition of vegetation in the seasonal wetland is fairly diverse and is composed mostly of herbaceous annuals. Dominant species common to seasonal wetlands, including Italian ryegrass, rabbitsfoot grass (*Polypogon monspeliensis*), creeping bentgrass (*Agrostis stolonifera*), and bedstraw (*Galium* sp.) were used to differentiate the seasonal wetland habitat from adjacent emergent wetland and the non-native grassland on the creek banks. Other common species in the seasonal wetland habitat include curly dock, poison hemlock (*Conium maculatum*), field horsetail (*Equisetum arvense*), common nettle (*Urtica dioica*), bird's foot trefoil (*Lotus corniculatus*), spurge (*Chamaesyce* sp.), American vetch (*Vicia americana*), sweetclover (*Melilotus officinale*), old man in the spring (*Senecio vulgaris*), rough cockleburr (*Xanthium strumarium*), brass buttons (*Cotula coronopifolia*), tufted hairgrass (*Deschampsia cespitosa*), umbrella sedge (*Cyperus eragrostis*), and knotweed (*Polygonum* sp.).

Wildlife. The suite of wildlife species that occurs in the seasonal wetland habitat in the study area is expected to be similar to the suite of species that occurs in the adjacent non-native grassland habitat on the levees, and many species that occur in the adjacent riparian forest habitat are also expected to forage in seasonal wetlands. However, because the seasonal wetland habitat is inundated with water for much of the year, this area is expected to support a higher diversity of invertebrates compared to upland habitats, and will support green plants for longer periods of the year.

4.4.5 Riparian Forest

The riparian forest habitat encompasses 0.4 ac of the La Avenida Street study area and is located on the steeply sloped western bank of Stevens Creek, on portions of islands in the center of the creek at the northernmost and southernmost ends of the study area, and on the eastern bank of Stevens Creek at the southernmost end of the study area. The soil in this habitat is partly covered in leaf litter and smaller rocks. The western bank of Stevens Creek contains a sakrete bank stabilization that is built around a large culvert that runs underneath the cul-de-sac in the adjacent developed habitat.

Vegetation. The riparian forest habitat is dominated consistently by understory species such as field horsetail, sedge (*Carex* sp.), Himalayan blackberry, English ivy, and coyote brush, but the overstory composition is more variable across the study area. The eastern bank and gravel bar forest represents a more natural riparian setting, dominated by red willow (*Salix laevigata*) and Fremont cottonwood (*Populus fremontii*). The western bank, which is located adjacent to developed habitat and includes areas of sakrete bank stabilization, is dominated by coast live oak with occasional ornamentals, such as London planetree.

Wildlife. Riparian habitats typically support high wildlife diversity because of the multilayered vegetation, presence of water, and abundance of invertebrate prey. However, the riparian habitat within the La Avenida Street study area is sparse and discontinuous, and provides somewhat lower-quality habitat compared to other reaches of Stevens Creek located to the north and south between U.S. Route 101 and Crittenden Road. Resident bird species that nest and forage in this habitat include the song sparrow (*Melospiza melodia*), lesser goldfinch, Anna's hummingbird, and bushtit, although these species are somewhat less likely to nest in the sparse riparian vegetation in the study area compared to the dense, contiguous riparian vegetation along Stevens Creek outside of the study area. Swallows, especially cliff swallows (*Petrochelidon pyrrhonota*), forage for insects over Stevens Creek in the study area and nest on nearby structures and bridges.

No nests of raptors (e.g., hawks, owls, and falcons) were observed in riparian trees in the study area or in immediately adjacent areas during the reconnaissance-level survey, and these species are unlikely to nest immediately adjacent to Stevens Creek Trail, which has high levels of pedestrian and bicycle traffic. However, larger trees in the riparian habitat, especially those with dense foliage that provide concealment from nearby human activity, provide potential nesting sites for common, urban-adapted species of raptors such as red-shouldered hawks (*Buteo lineatus*) and Cooper's hawks.

In addition to permanent resident and breeding birds, a number of migratory and wintering species occur in the site's riparian habitat, including species of warblers, vireos, flycatchers, and sparrows. During migration, willow and cottonwood trees provide high-quality foraging habitat for these migrants. Although these trees are deciduous, and thus provide poor cover in winter, they still support fairly large numbers of foraging birds during this season. Migrant songbirds, such as the yellow warbler (*Setophaga petechia*), Wilson's warbler (*Cardellina pusilla*), orange-crowned warbler (*Oreothlypis celata*), western tanager (*Piranga ludoviciana*), Pacific-slope flycatcher (*Empidonax difficilis*), and warbling vireo (*Vireo gilvus*), forage on insects in trees and shrubs during spring and fall migration. Several other species, including the ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler, white-crowned sparrow, and golden-crowned sparrow, occur as both migrants and winter residents.

Garter snakes will forage for insects and amphibians in this riparian habitat. In addition, gopher snakes and western fence lizards associated with adjacent grassland and ornamental habitats will forage in this habitat. Amphibians such as the arboreal salamander (*Aneides lugubris*) occur in the leaf litter in this habitat and the native Sierran chorus frog is also present. Urban-adapted mammals, such as the native raccoon and striped skunk, as well as the non-native Virginia opossum (*Didelphis virginiana*), Norway rat, black rat, and eastern gray squirrel

(*Sciurus carolinensis*), reside in riparian habitat and adjacent habitats in the study area. Nonnative feral cats occur within this habitat as well.

4.4.6 Perennial Channel

Aquatic habitat within perennial channels in Stevens Creek encompasses 0.2 ac of the La Avenida Street study area. These perennial channels convey Stevens Creek, which originates in the Santa Cruz Mountains and flows to San Francisco Bay. The perennial channel diverges into two parallel channels roughly halfway through the La Avenida Street study area. The perennial channels in the study area were observed to flow at a low to moderate rate in June 2016 and ranged from several inches to several feet deep. The deepest sections of the perennial channel habitat are located in the southern part of the study area. The bed of Stevens Creek primarily consists of small to medium sized rocks and silt. The stream has eroded both banks of the emergent wetland habitat and housed a preponderance of algal mats, particularly in the divergent channels. Drift deposits and soil deposition are common on the edges of the perennial channel habitat in Stevens Creek. The reach of Stevens Creek within the La Avenida study area is completely non-tidal.

Vegetation. The perennial channel habitat generally lacks vegetation, though watercress (*Nasturtium officinale*) frequently grows on algal mats located on the surface of the channel. The aquatic habitat in this reach is freshwater with little to no brackish influence.

Wildlife. The perennial channel habitat in Stevens Creek supports common fish species such as the California roach (*Hesperoleucus symmetricus*), Sacramento sucker (*Catostomus occidentalis*), three-spined stickleback (*Gasterosteus aculeatus*), and prickly sculpin (*Cottus asper*). Nonnative crayfish (*Pacifastacus leniusculus*) and non-native bullfrogs may occur there as well. Sierran chorus frogs breed and occur in this habitat. CCC steelhead are known to occur in Stevens Creek, and will migrate through the study area between the ocean and breeding areas farther upstream during the spring and fall.

Aquatic invertebrates present in this habitat include notonectids (family Notonectidae), midge (family Chironomidae) larvae, and dragonfly and damselfly (order Odonata) larvae, and species such as seed shrimp (class Ostracoda) and clam shrimp (subclass Phyllopoda) also may be present.

4.4.7 Emergent Wetland

Emergent wetland habitat encompasses 0.1 ac of the La Avenida Street study area. Emergent wetlands occur between the drier seasonal wetlands and the perennial channel habitat in the creek. The soil in the perennial freshwater marsh habitat is relatively unstable with vegetation submerged in several inches of water at points. The topography of the perennial freshwater marsh habitat is relatively flat with a mild slope downward into the stream.

Vegetation. The emergent wetland habitat was delineated based on dominant vegetation that was largely absent in the seasonal wetland habitat. The dominant species in the perennial freshwater habitat include watercress,

water speedwell (*Veronica anagallis-aquatica*), and cattail, and unlike the Charleston Road study area, does not support a preponderance of brackish emergent wetland species such as sturdy bulrush. Other species recorded during the survey conducted in June 2016 include umbrella sedge, rabbitsfoot grass, leafed peppergrass (*Lepidium latifolium*), chairmaker's bulrush (*Schoenoplectus americanus*), and swamp smartweed (*Persicaria hydropiperoides*).

Wildlife. Freshwater marsh habitat can provide valuable habitat for wildlife species. However, the freshwater marsh habitat within the La Avenida Street study area is very limited in extent and correspondingly provides only very limited resources for wildlife. Marsh and riparian specialists, such as the San Francisco common yellowthroat, a California species of special concern, and song sparrow may nest in this habitat. In addition, many wildlife species that occur in the contiguous riparian, seasonal wetland, and ornamental habitats will also occur in the freshwater marsh habitat along Stevens Creek.

4.5 Wildlife Movement in the La Avenida Street Study Area

Wildlife movement within and in the vicinity of the La Avenida Street study area takes many forms, and is different for the various suites of species associated with these lands. Bird and bat species move readily over the landscape, foraging over and within both natural lands and landscaped areas of Mountain View. Mammals of different species move within their home ranges, but also disperse between patches of habitat. Generally, reptiles and amphibians similarly settle within home ranges, sometimes moving to central breeding areas or refugia in a predictable manner, but also dispersing to new areas. Some species, especially among the birds and bats, are migratory, moving into or through the Project region during specific seasons. Aside from bats, there are no other mammal species in the vicinity of the site that are truly migratory. However, the young of many mammal species disperse from their natal home ranges, sometimes moving over relatively long distances in search of new areas in which to establish.

Movement corridors are segments of habitat that provide linkage for wildlife through the mosaic of suitable and unsuitable habitat types found within a landscape while also providing cover. On a broader level, corridors also function as paths along which wide-ranging animals can travel, populations can move in response to environmental changes and natural disasters, and genetic interchange can occur. In California, environmental corridors often consist of riparian areas along streams, rivers, or other natural features.

4.5.1 Stevens Creek

Stevens Creek, which drains the Stevens Creek watershed, originates in the Santa Cruz Mountains and flows northward for 12.5 mi through residential and commercial areas of Cupertino, Los Altos, Sunnyvale, and Mountain View before flowing into Whisman Slough and entering the San Francisco Bay approximately 2.3 mi downstream from the proposed La Avenida Street bridge crossing. Because the Stevens Creek corridor connects upper reaches of Stevens Creek to the open waters of the San Francisco Bay, several fish, reptiles, and other common aquatic species likely use the portion of Stevens Creek within the study area as a movement corridor. Upland portions of the Stevens Creek corridor, such as banks and levees, also provide a movement

and dispersal corridor for terrestrial reptiles and mammals. This creek supports a native run of CCC steelhead (Leidy et al. 2005, Smith 2013).

In summary, the Stevens Creek corridor supports a movement corridor allowing dispersal of aquatic animals and other non-flying wildlife through the City.

4.5.2 Pacific Flyway Stopover

Riparian habitat along portions of lower Stevens Creek provides relatively high-quality, native cottonwood and willow habitat for migratory birds. The riparian habitat within the La Avenida Street study area is of limited extent and is not contiguous. Nevertheless, the maturity and diversity of the riparian habitat in the study area, coupled with its proximity to high-quality riparian habitat immediately upstream and downstream from the La Avenida Street study area, attracts some migrant songbirds. In addition, due to the location of the Project area along the edge of the treeless Bay and associated bayland areas, the vegetation on the site may be more important to migratory birds than similarly vegetated areas farther from the Bay. Migratory birds flying over or along the edges of San Francisco Bay may use the site as a stopover site for refueling and deposition of fat reserves to continue migration.

4.6 Special-status Plant and Animal Species in the Project Area

CEQA requires assessment of the effects of a Project on species that are protected by state, federal, or local governments as "threatened, rare, or endangered"; such species are typically described as "special-status species". For the purpose of the environmental review of the Project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in the Regulatory Setting section above.

For purposes of this analysis, "special-status" plants are considered plant species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Ranked by the CNPS as rare, endangered, and have a CRPR of 1A, 1B, 2A, 2B, 3, or 4.

For purposes of this analysis, "special-status" animals are considered animal species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.

- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

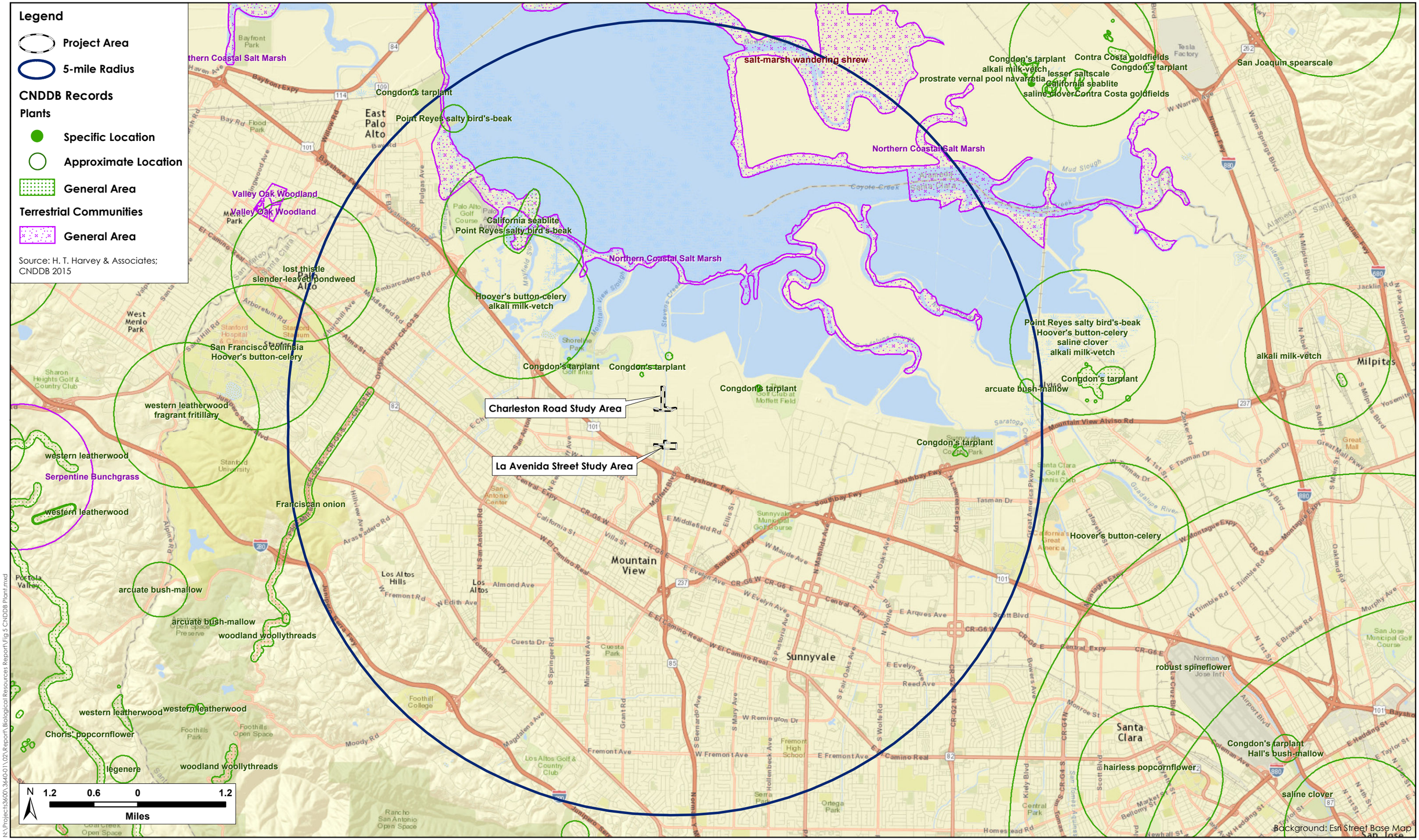
Below, we include several non-special-status species in our discussion of special-status animal species that could potentially occur in the Project area. These species are addressed in this report because they were included in the 2012 IS/EA for the Charleston Road study area and we want to be consistent between that study area and the La Avenida Street study area; however, per the definitions provided above, we do not consider these to be special-status species.

Information concerning threatened, endangered, and other special-status species that may occur on the Project area and in the surrounding vicinity was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described under *Methods* above. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used to determine which species potentially occur in the Project area. Figure 5 depicts CNDDB records of special-status plant species in the general vicinity of the Project area, and Figure 6 depicts CNDDB records of special-status animal species. These generalized maps show areas where special-status species are known to have been recorded.

4.6.1 Special-status Plants

The 2012 IS/EA determined that the only special-status plant with potential to occur in the Charleston Road study area was Condgon's tarplant (*Centromadia parryi* ssp. *congdonii*, CRPR 1B.1), which was determined to have a low potential to occur due to the presence of only marginally suitable habitat. A focused survey for Congdon's tarplant was conducted in the Charleston Road study area on June 10, 2016 by H. T. Harvey & Associates plant ecologist, G. Sproull. That same day, G. Sproull visited a known reference population of Congdon's tarplant. At that time, the Congdon's tarplant population included a mixture of individuals with fully developed flowers and flower buds, and the plants were positively identified to subspecies. Individuals of Congdon's tarplant would have been detectable and identifiable during the focused survey, but none were observed in the Charleston Road study area. Thus, Congdon's tarplant was determined to be absent from the study area in 2016. Moreover, the study area generally does not contain soils that are mesic or clayey enough for the proliferation of Congdon's tarplant.

The CNPS (2016) and CNDDB (2016) identify 79 special-status plant species as potentially occurring in at least one of the nine USGS 7.5-minute quadrangles containing or surrounding the La Avenida Street study area for species with a CRPR of 1–3, or in Santa Clara County for CRPR 4 species. The majority of potentially occurring special-status plant species were determined to be absent from the La Avenida Street study area for at least one of the following reasons: (1) absence of suitable habitat types; (2) lack of specific microhabitat or edaphic requirements, such as serpentine soils; and/or (3) the elevation range of the species is outside of the range on the Project area (Appendix C). The legal status and likelihood of occurrence of special-status plant species known to occur or potentially occurring in the general Project region are presented in Table 3. The list of



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 5. CNDDB Plant Records
Stevens Creek Crossings Project Biological Resources Report (3640-02)
September 2016

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H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 6. CNDDB Animal Records

Stevens Creek Crossings Project Biological Resources Report (3640-02)
September 2016

potentially occurring special-status species was reduced to one plant species that warrants further discussion: Congdon's tarplant.

Congdon's Tarplant (*Centromadia parryi* ssp. *congdonii*). Federal Listing Status: None; State Listing Status: None; CRPR: 1B.1. Congdon's tarplant is an annual herb in the composite family (Asteraceae) that is endemic to California. It has a variable blooming period extending from May through November. Congdon's tarplant occurs in valley and foothill grassland habitat, floodplains, and swales, particularly those with alkaline substrates; and in disturbed areas with non-native grasses such as wild oats (*Avena* sp.), ripgut brome, Italian ryegrass, and seaside barley (*Hordeum marinum*) (CNDDB 2016, CNPS 2016, Baldwin et al. 2012, and SCVWD 2011). Congdon's tarplant occurs in Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, and Solano counties (CNDDB 2016).

Two extant populations of Congdon's tarplant have been recorded in the Project vicinity (Figure 5). In addition, Congdon's tarplant has been documented by City of Mountain View biologists at five locations on Shoreline Park, northwest of the La Avenida Street study area (City of Mountain View 2014b). A focused survey for Congdon's tarplant was conducted in the La Avenida Street study area on June 10, 2016 by H. T. Harvey & Associates plant ecologist, G. Sproull. That same day, G. Sproull visited a known reference population of Congdon's tarplant. At that time, the Congdon's tarplant population included a mixture of individuals with fully developed flowers and flower buds, and the plants were positively identified to subspecies. Individuals of Congdon's tarplant would have been detectable and identifiable during the focused survey, but none were observed in the study area. Thus, Congdon's tarplant was determined to be absent from the study area. Moreover, the study area generally does not contain soils that are mesic or clayey enough for the proliferation of Congdon's tarplant.

Table 3. Special-Status Plant Species, Their Status, Habitat Description, and Potential for Occurrence in the La Avenida Street Study Area

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Alkali milk-vetch *(Astragalus tener* var. *tener)*	CNPS 1B.2	Vernal pools, playas, and valley and foothill grassland on adobe clay. Commonly found on alkaline soil; 3-200 ft in elevation.	**Absent.** Alkali milk-vetch occurs on alkaline adobe clay soil, which is not found in the study area. Vernal pools and playas are absent from the study area, thus alkali milk-vetch is determined to be absent.
Anderson's manzanita *(Arctostaphylos andersonii)*	CNPS 1B.2	Openings and edges in broadleafed upland forest, chaparral, and North Coast coniferous forest; 200-2500 ft in elevation.	**Absent.** No suitable chaparral or forest habitats occur in the study area to support Anderson's manzanita. Determined to be absent.
Congdon's tarplant *(Centromadia parryi* ssp.*congdonii)*	CNPS 1B.2	Alkaline valley and foothill grassland, floodplains and swales, disturbed areas; 0-755 ft in elevation.	**Absent.** Congdon's tarplant is known to be present in the study area, and one occurrence of Congdon's tarplant was recorded approximately 0.4 mi north of the Charleston Bridge Road study area along Stevens Creek. Congdon's tarplant occurs on alkaline soil, and strongly alkaline soils were not found in the study area. Further, the species was not found in the study area during a focused survey for this species in June 2016 during its bloom period. Thus, Congdon's tarplant is determined to be absent.
Point Reyes bird's beak *(Chloropyron maritimum* ssp.*palustre)*	CNPS 1B.2	Coastal salt marsh and swamps; 0-35 ft in elevation.	**Absent.** The study area does not contain suitable habitat conditions to support Point Reyes bird's beak because there are no suitable coastal salt marsh or swamp habitats. Determined to be absent.
Hoover's button-celery *(Eryngium aristulatum* var. *hooveri)*	CNPS 1B.1	Vernal pools; 10-150 ft in elevation.	**Absent.** No vernal pools occur in the study area. Determined to be absent.

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Slender-leaved pondweed *(Stuckenia filiformis)*	CNPS 2B.2	Freshwater marsh in freshwater wetlands, drainages; 985-7055 ft in elevation.	**Absent.** The study area is located below the elevation range of slender-leaved pondweed, which is presumed to be extirpated from Santa Clara County. Determined to be absent.
California seablite *(Suaeda californica)*	FE, CNPS 1B.1	Coastal salt marsh and swamps; 0-50 ft in elevation.	**Absent.** No suitable salt marsh habitat occurs in the study area to support California seablite. Determined to be absent.

Key to Abbreviations:

Status: Seriously endangered in California and throughout its range (CNPS 1B.1); Fairly endangered in California and throughout its range (CNPS 1B.2); Fairly endangered in California but more common elsewhere (CNPS 2B.2); Federally Endangered (FE).

4.6.2 Special-status Animals

The 2012 IS/EA described the special-status animal species with potential to occur within the Charleston Road study area. The majority of this information still applies, and we are not repeating that information here. However, we are providing updates to three special-status animal species to refine the 2012 IS/EA's discussion of potential for occurrence within the Charleston Road study: the California Ridgway's rail, northern harrier, and San Francisco common yellowthroat. Otherwise, this section focuses on the special-status animal species with potential to occur within the La Avenida Street study area.

- The 2012 IS/EA indicated that there was a low potential for the California Ridgway's rail (formerly known as the California clapper rail) to forage within Stevens Creek in the previously defined study area and nest within adjacent vegetation. However, the study area evaluated for the 2012 IS/EA included the Crittenden Road bridge, which is substantially closer to suitable rail habitat than the Charleston Road study area. No suitable habitat for California Ridgway's rails occurs on or within 700 ft (the typical buffer between California Ridgway's rail habitat and construction activities recommended by the USFWS and CDFW) of the Charleston Road study area.
- The 2012 IS/EA indicated that there was a moderate potential for the northern harrier to nest on or immediately adjacent to the previously defined study area. However, the study area evaluated for the 2012 IS/EA extended much farther north along Stevens Creek than the Charleston Road study area, and no suitable nesting habitat for northern harriers occurs on or within 300 ft (the typical buffer between raptor nests and construction activities prescribed by the North Bayshore Precise Plan) of the Charleston Road study area.
- The 2012 IS/EA indicated that no suitable habitat for San Francisco common yellowthroats was present in the previously defined study area. However, habitat conditions for this species have improved with the expansion of emergent marsh within the creek channel, and suitable marsh and riparian vegetation to support nesting is present in the Charleston Road study area. Thus, this species could potentially nest and forage in the Charleston Road study area.

The legal status and likelihood of occurrence of special-status animal species, as well as the non-special-status species that were included in the 2012 IS/EA, known to occur or potentially occurring in the general Project region are presented in Table 4. Figure 6 depicts the CNDDB-mapped locations of special-status animals in the Project vicinity.

The following special-status species that are present in less urbanized settings in the South Bay, or in specialized habitats in the South Bay, are absent from the La Avenida Street study area due to a lack of suitable habitat and/or isolation of the site from populations by urbanization: the Bay checkerspot butterfly (*Euphydryas editha bayensis*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), vernal pool tadpole shrimp (*Lepidurus packardi*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), California Ridgway's rail, California black rail (*Laterallus jamaicensis coturniculus*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), salt marsh harvest mouse (*Reithrodontomys*

raviventris), northern harrier, Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), salt marsh wandering shrew (*Sorex vagrans halicoetes*), and California brown pelican (*Pelecanus occidentalis californicus*). In addition, two non-special-status species that are present elsewhere in the South Bay are absent from the La Avenida Street study area due to a lack of suitable habitat: the California brackishwater snail (*Tryonia imitator*) and double-crested cormorant (*Phalacrocorax auritus*).

The green sturgeon (*Acipenser medirostris*), delta smelt (*Hypomesus transpacificus*), and longfin smelt (*Spirinchus thaleichthys*) occur in tidal waters of portions of San Francisco Bay. However, the reach of Stevens Creek within the La Avenida Street study area does not provide suitable foraging habitat for these species. The Central Valley steelhead (*Oncorhynchus mykiss*), CCC coho salmon (*Oncorhynchus kisutch*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), and Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*) also occur in the open waters of portions of the Bay, and although they spawn in freshwater streams and rivers, they do not spawn in South Bay streams. Thus, these species are determined to be absent from the La Avenida Street study area.

Three bird species that are considered California species of special concern when they are breeding may occur in the La Avenida Street study area as nonbreeding transients, foragers, or migrants, but they have not been recorded nesting on, or very close to, the study area. These are the yellow warbler, yellow-breasted chat (*Icteria virens*), and Alameda song sparrow (*Melospiza melodia pusillula*). However, because these species are only considered species of special concern when nesting, they are not "special-status species" when they occur as nonbreeding visitors to the study area.

Bird species that are listed as threatened or endangered under the CESA and/or the FESA are considered "special-status species" year-round even if they do not nest in the La Avenida Street study area. The tricolored blackbird (*Agelaius tricolor*), a state candidate for listing as endangered, may occur on the site as an occasional nonbreeding forager, but is not known or expected to nest on or near the study area. Similarly, mammal state species of special concern are considered "special-status species" year-round. Two special-status bat species, the western red bat (*Lasiurus blossevillii*) and pallid bat (*Antrozous pallidus*), may occur as occasional nonbreeding visitors to the study area, but these species do not breed in the site vicinity and are not expected to occur regularly or in large numbers. One non-special-status bat species, the hoary bat, may occur in small numbers in the study area year-round.

The golden eagle (*Aquila chrysaetos*) and American peregrine falcon (*Falco peregrinus anatum*), both state fully protected species, will occasionally fly over the site. Although peregrine falcons nest at the nearby Ames wind tunnel, no suitable nesting habitat for golden eagles or peregrine falcons, nor high-quality foraging habitat, occurs in or within 300 feet of the La Avenida Street study area. These species are not expected make substantial use of available foraging habitat on the site because the site is small and has high levels of human disturbance.

Marginally suitable habitat for San Francisco dusky-footed woodrats (*Neotoma fuscipes annectens*) occurs in areas of thick vegetation along Stevens Creek. With the exception of records along Coyote Creek and along the edges

of the Santa Clara Valley, San Francisco dusky-footed woodrats are not known to occur in the more urbanized portions of Santa Clara County (H. T. Harvey & Associates 2010). No woodrats or woodrat nests were observed on the site during the 2016 reconnaissance-level survey conducted by H. T. Harvey & Associates biologists, despite concerted efforts to find nests. Thus, this species was determined to be absent from the site.

A colony of nesting snowy egrets (*Egretta thula*), along with great egrets (*Ardea alba*) and black-crowned night-herons (*Nycticorax nycticorax*), is located within 250 ft of the Charleston Road study area. None of these are considered special-status species as defined above, but snowy egrets were included in the list of animal species in the 2012 IS/EA. This species, and other non-special-status bird species, are discussed in this report in the context of potential Project impacts on common bird species and compliance with the MBTA and California Fish and Game Code.

The following sections discuss the special-status animal species that have the potential to breed on or immediately adjacent to the La Avenida Street study area and/or to regularly use it, that have the potential to be substantially affected by the Project (e.g., due to their rarity), and/or that are of particular concern to resource agencies and therefore require additional discussion. These are the CCC steelhead, Central Valley fall-run Chinook salmon, western pond turtle, burrowing owl, loggerhead shrike, San Francisco common yellowthroat, and white-tailed kite.

Table 4. Special-Status Animal Species, Their Status, Habitat Description, and Potential for Occurrence in the La Avenida Street Study Area

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
Federal or State Endangered, Threatened, or Candidate Species			
Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT	Native grasslands on serpentine soils. Larval host plants are *Plantago erecta* and/or *Castilleja* sp.	**Absent.** No suitable habitat occurs in the study area, and the site is outside the species' known range. Determined to be absent.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Grass or mud-bottomed swales in grasslands on old alluvial soils underlain by hardpan.	**Absent.** No suitable habitat occurs in the study area, and the site is outside the species' known range. Determined to be absent.
Green sturgeon (*Acipenser medirostris*)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	**Absent.** Green sturgeon occur in San Francisco Bay and may forage infrequently, and in low numbers, in tidally influenced portions of Stevens Creek far downstream. However, the reach of Stevens Creek in the La Avenida Street study area is nontidal and does not provide suitable foraging or spawning habitat for this species. Thus, the green sturgeon is determined to be absent from the study area.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, tidal water in the Sacramento/ San Joaquin River Delta. Occurs in San Francisco Bay.	**Absent.** The study area is outside the species' known range. Determined to be absent.
Longfin smelt (*Spirinchus thaleichthys*)	FC, ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay.	**Absent.** Adults and yearling juveniles may be present as occasional foragers in tidal reaches of Stevens Creek far downstream. However, the reach of Stevens Creek within the La Avenida Street study area is nontidal and does not provide suitable foraging habitat for this species. Thus, the longfin smelt is determined to be absent.
CCC steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions allowing	**Absent as Breeder.** Known to occur in Stevens Creek (Leidy et al. 2005, Smith 2013). No suitable spawning habitat is present in the study area, as the streambed is dominated by accumulated sediment. During wet months, this

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
		migration between spawning and marine habitats.	portion of Stevens Creek functions as a migration corridor for individuals traveling between San Francisco Bay and higher-quality breeding and rearing habitat upstream.
Central Valley steelhead (*Oncorhynchus mykiss*)	FT	Spawns in cool, moderately fast flowing water with gravel bottom.	**Absent.** The study area is outside the species' known range. Determined to be absent.
CCC coho salmon (*Oncorhynchus kisutch*)	FE, SE	Open ocean, estuaries, and rivers.	**Absent.** The study area is outside the species' known range. Determined to be absent.
Central Valley spring-run Chinook salmon	FT, ST	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	**Absent.** The study area is outside the species' known range. Determined to be absent.
Sacramento River winter-run Chinook salmon	FE, SE	Cool streams that reach the ocean and that have shallow, partly shaded pools and clear-water sandstone depression pools.	**Absent.** The study area is outside the species' known range. Determined to be absent.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	**Absent.** Populations on the Santa Clara Valley floor have been extirpated due to habitat loss, and the species is now considered absent from the majority of the Valley floor, including the study area (H. T. Harvey & Associates 1999, 2012; SCVWD 2011). No recent records of California tiger salamanders are located within 1.3 mi of the study area (CNDDB 2016) and the species is determined to be absent from the study area and the surrounding vicinity.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Absent.** This species has been extirpated from the majority of the Project region, including the entire urbanized Valley floor, due to development, the alteration of hydrology of its aquatic habitats, and the introduction of non-native predators such as non-native fishes and bullfrogs (H. T. Harvey & Associates 1997, SCVWD 2011). California red-legged frogs are determined to be absent from the study area.
California Ridgway's rail (*Rallus obsoletus obsoletus*)	FE, SE, SP	Salt marsh habitat dominated by pickleweed and cordgrass (*Spartina* spp.).	**Absent.** Suitable foraging and breeding habitat for California Ridgway's rails is absent from the study area and adjacent areas. Ridgway's rails are not known to occur along Stevens Creek upstream from the Crittenden Marsh area, approximately 1.0 mi north of the La Avenida Street study area (Cornell Lab of Ornithology 2016; Santa Clara County bird data, unpublished; South Bay Birds list-serve 2016). No suitable tidal salt marsh habitat for this species occurs on or within 700 ft of the La Avenida Street study area, and the species is determined to be absent.
California black rail (*Laterallus jamaicensis coturniculus*)	ST, SP	Breeds in fresh, brackish, and tidal salt marsh.	**Absent.** No salt marsh or brackish marsh habitat occurs within or immediately adjacent to the study area, and this species is determined to be absent.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pannes in San Francisco Bay saline managed ponds.	**Absent.** Not expected to occur within or adjacent to the study area owing to a lack of suitable habitat (i.e., lack of sandy beaches/salt pannes).
California least tern (*Sterna antillarum browni*)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In the South Bay, nests in salt pannes and on an old airport runway. Forages for fish in open waters.	**Absent.** Not expected to occur within or adjacent to the study area owing to a lack of suitable nesting habitat (i.e., lack of salt pannes, bare or sparsely vegetated areas free from human disturbance) or foraging habitat (e.g., managed ponds, open Bay). The levees on the site are too highly disturbed by regular human activity (i.e., pedestrian and bicycle traffic along the Stevens Creek Trail) to provide suitable roosting habitat for this species.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
Tricolored blackbird (*Agelaius tricolor*)	SC	Nests near fresh water in dense emergent vegetation.	**Absent as Breeder**. In Santa Clara County, this species has bred in only a few scattered locations, and is absent from, or occurs only as a nonbreeder in, most of the County (Rottenborn 2007a). It typically nests in extensive stands of tall emergent herbaceous vegetation in non-tidal freshwater marshes and ponds. Although such habitat is present along Stevens Creek, this species (whose colonies are loud and conspicuous) has never been recorded breeding in the study area or elsewhere along Stevens Creek, and the lack of much more extensive emergent habitat and high level of human activity preclude this species' presence in the study area as a breeder. Thus, this species is expected to occur only as an occasional nonbreeding forager.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	**Absent.** No pickleweed-dominated salt marsh or bulrush-dominated brackish marsh providing breeding or foraging habitat for this species is present in the study area or its immediate vicinity. Determined to be absent.
California Species of Special Concern			
Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	**Absent as Breeder.** There is no known documentation that Chinook salmon occur in Stevens Creek. However, Chinook salmon are known to occur in other South Bay streams, and they could potentially occur in Stevens Creek on occasion. Genetic analyses indicate that Chinook in South Bay streams are all derived from Central Valley fall-run or Columbia River stock (Salsbery et al. 2004, Garza and Pearse 2008). There is no evidence that adults are successfully returning to spawn in these creeks, and thus there is no evidence that the species has naturalized in South Bay streams (SCVWD 1998-2005, Salsberry 2009). Suitable spawning habitat is absent from the study area within Stevens Creek. Nevertheless, small numbers of fall-run adults from hatchery stock may migrate upstream through the study area from late September through November, and if spawning occurs, juveniles could migrate downstream in January or February.
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats.	**Unlikely to Occur.** Although breeding populations have been extirpated from most agricultural and urbanized areas in the Project region, individuals of this long-lived species still occur in urban streams and ponds in the Santa Clara Valley. The nearest known population is located in the Lockheed Channel

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
			and North Moffett Channel approximately 1.3 mi northeast of the study area. It is possible that western pond turtle individuals could infrequently disperse from this population to the study area. Individual western pond turtles may forage in the aquatic habitat along Stevens Creek and/or nest in nearby upland areas, although they would be expected to do so in extremely small numbers, if at all.
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	**Absent as Breeder.** Individuals could potentially forage in grassland areas along the Stevens Creek levees and on lands owned by NASA to the east. No suitable marsh habitat for breeding occurs within or adjacent to the study area.
Burrowing owl (*Athene cunicularia*)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	**Unlikely to Occur.** This species is present year-round in the Project region at Shoreline Park approximately 0.7 mi to the northwest of the La Avenida Street Study Area, where approximately 438 ac of upland areas provide high to moderate-use burrowing owl habitat (Trulio and Higgins 2012). They also occur at Moffett Federal Airfield approximately 0.8 mi to the east (CNDDB 2016, Cornell Lab of Ornithology 2016). Ostensibly suitable habitat for burrowing owls is present within and adjacent to the study area on levees along Stevens Creek and on lands owned by NASA to the east. These areas contain grasslands with burrows of California ground squirrels, which provide suitable nesting and roosting sites for owls. However, burrowing owls are not known to occur in these areas, likely due to high levels of human disturbance and the presence of tall fences and trees that provide perching sites for other raptors that prey upon burrowing owls. Thus, there is a low probability that this species will occur in the study area.
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	**Unlikely to Occur.** Nests in a number of locations around the South Bay where open grassland, ruderal, or agricultural habitat with scattered brush, chaparral, or trees provides perches and nesting sites (Bousman 2007b), though populations have declined in recent years as suitable habitat has been increasingly developed. This species is not known to nest or forage on or adjacent to the study area, and is unlikely to occur there due to the limited extent of open habitat. However, suitable open foraging habitat and dense trees and shrubs for nesting is present in the study area, and there is some potential for the species to occur.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
Yellow warbler (*Setophaga petechia*)	CSSC (nesting)	Nests in riparian woodlands.	**Absent as Breeder.** Uncommon breeder in Santa Clara County, although it is a common fall migrant (Bousman 2007c). Prefers riparian corridors with adjacent open space (rather than heavily developed areas) and an overstory of mature cottonwoods and sycamores, a midstory of box elders and willows, and a substantial shrub understory for nesting (Bousman 2007c). The willow and cottonwood habitat along Stevens Creek is ostensibly suitable for this species, but yellow warblers are very rare breeders so close to the edge of the Bay in Santa Clara County, and they are not known or suspected to breed in the study area. This species will occur on the site as a migrant, and is particularly numerous in fall.
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	**May be Present.** Suitable nesting habitat for this species is present within the study area, and suitable foraging habitat is present throughout the study area. Common yellowthroats nesting in the study area are of the special-status subspecies *sinuosa* (San Francisco Bay Bird Observatory [SFBBO] 2012). The greatest proportion of nesting records in the Project region occur within brackish and freshwater marshes near the edge of the Bay, and in early-successional riparian habitat in broader floodplains (Bousman 2007d). Nests are typically located in extensive stands of bulrushes in brackish marshes and dense cattail beds in freshwater marshes, but the species also nests in forbs in riparian habitats. Up to one pair of this species may nest within herbaceous vegetation along the creek channel in the study area.
Yellow-breasted chat (*Icteria virens*)	CSSC (nesting)	Nests in dense stands of willow and other riparian habitat.	**Absent as Breeder.** This species is a rare breeder, and only slightly more regular transient, in willow-dominated riparian habitats in the South Bay, but it does not nest as close to the Bay as the study area (Bousman 2007e). May occur in the study area only as a very infrequent nonbreeding transient.
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	**Absent as Breeder.** The *pusillula* subspecies of song sparrow is endemic to Central and South San Francisco Bay. This subspecies breeds in salt marsh along lower Stevens Creek, far downstream from the study area. However, suitable salt marsh habitat is absent from the study area, and thus song sparrows breeding in the study area are likely of the widespread, freshwater subspecies *gouldii* or intergrades between the two subspecies. Individuals of several song sparrow subspecies, including *pusillula*, may occur on the site during migration and winter.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat.	**Absent.** In the South San Francisco Bay, nests primarily in short pickleweed-dominated portions of diked/muted tidal salt marsh habitat and in adjacent ruderal habitats (Rottenborn 2007b). No suitable nesting or foraging habitat occurs in the study area.
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	Medium to high marsh 6 to 8 ft above sea level with abundant driftwood and common pickleweed.	**Absent.** Suitable pickleweed-dominated salt marsh habitat providing breeding or foraging habitat for this species is absent from the study area, and this species is determined to be absent.
Pallid bat (*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**Absent as Breeder.** Historically, pallid bats were likely present in a number of locations throughout the Project region, but their populations have declined in recent decades. No suitable roosting habitat for pallid bats is present on the site, and pallid bats have been extirpated from highly urbanized areas close to the Bay in the region, and thus are not expected to roost in the vicinity. There is a low probability that individuals from more remote locations in the Project region could forage on the site, although due to the urbanized nature of the surrounding areas, it is unlikely that pallid bats are present in the vicinity at all.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	**Absent as Breeder.** May occur in low numbers as a migrant and winter resident, but does not breed in the site vicinity. May roost in the foliage of trees anywhere on the site.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	**Absent.** Currently, with the exception of records along Coyote Creek and along the edges of the Valley, San Francisco dusky-footed woodrats are not known to occur in the more urbanized portions of Santa Clara County (H. T. Harvey & Associates 2010). Marginally suitable habitat for dusky-footed woodrats occurs in areas of thick vegetation along Stevens Creek. However, no woodrats or woodrat nests were observed in this area during the 2016 reconnaissance-level survey conducted by H. T. Harvey & Associates biologists, despite concerted efforts to find nests. Thus, this species is determined to be absent from the study area.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
State Fully Protected Species			
California brown pelican (*Pelecanus occidentalis californicus*)	SP (nesting colony and communal roosts)	Undisturbed islands near estuarine, marine, subtidal, and marine pelagic waters.	**Absent.** Suitable foraging habitat is absent from the study area, and the species does not breed in the region.
American peregrine falcon (*Falco peregrinus anatum*)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	**Absent as Breeder.** Peregrine falcons are known to nest on the Ames wind tunnel to the northeast of the study area and on electrical transmission towers over managed ponds north of Moffett Field (using the old nests of other species), but they do not nest in or immediately adjacent to the study area. Peregrine falcons may occur as occasional foragers in the Project vicinity.
Golden eagle (*Aquila chrysaetos*)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	**Absent as Breeder.** Suitable nesting habitat is absent from the study area. Occasional individuals may forage for small mammals along levees or open grassland areas in the eastern portion of the study area.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
White-tailed kite (*Elanus leucurus*)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	**Present.** The species is known to nest along the northern edge of Santa Clara County throughout the open areas edging the San Francisco Bay (Bousman 2007f). There are records of individual white-tailed kites along Stevens Creek and at the nearby Charleston Retention Basin, Moffett Field to the east, Crittenden Marsh to the northeast, Shoreline Park to the north, and Coast Casey Forebay to the northwest (Cornell Lab of Ornithology 2016; Santa Clara County Bird Data, unpublished; South Bay Birds List-serve 2016). Suitable nesting habitat for white-tailed kites is present in large trees along Stevens Creek within and adjacent to the study area. However, this species is unlikely to nest along Stevens Creek due to high levels of human disturbance.
Other Species[1]			
California brackishwater snail (*Tryonia imitator*)		Coastal lagoons, estuaries, and salt marshes.	**Absent.** No suitable habitat occurs in the study area, and the site is outside the species' known range. Determined to be absent.
Great blue heron (*Ardea herodias*)	(nesting colony)	Nests in trees in colonies located near foraging habitat. Forages in shallow water or open grasslands.	**Absent as Breeder.** Ostensibly suitable nesting habitat is present in trees the study area, but this species is not known to nest along Stevens Creek or in adjacent areas. Individuals forage regularly along the creek and in adjacent grasslands.
Snowy egret (*Egretta thula*)	(nesting colony)	Nests in trees or other vegetation in colonies, typically in estuarine areas. Forages in shallow water.	**Present in Adjacent Areas.** A nesting colony of snowy egrets is present along Shorebird Way, approximately 0.4 mi north of the study area. Individuals of this species forage regularly along Stevens Creek.

[1] These non-special-status species are addressed in this report because they were included in the 2012 IS/EA. However, per the definition provided at the beginning of Section 5, we do not consider them to be special-status species.

Name	*Status	Habitat	Potential for Occurrence in the La Avenida Street Study Area
Double-crested cormorant (*Phalacrocorax auritus*)	(nesting colony)	Nests on the ground, on cliffs, on artificial structures or in trees in colonies near foraging habitat. Forages in shallow, open water close to shore.	**Absent.** Aquatic habitat in Stevens Creek is too shallow to support foraging by this species. Not expected to nest in trees along Stevens Creek due to a lack of adjacent foraging habitat. Determined to be absent.
Hoary bat (*Lasiurus cinereus*)		Roost solitarily in the foliage of trees near open habitats.	**May be Present.** Typically occurs in the Project region during the winter, but may also move through during the spring and fall. Rarely, small numbers of individuals may breed in the South Bay. Suitable roosting habitat for hoary bats is present in the foliage of trees in the study area; although the species has been recorded breeding in the South Bay, there are few breeding records, and breeding within the study area is therefore unlikely. Individuals may roost in trees throughout the site, and forage over open areas.

Key to Abbreviations:

Status: Federally Endangered (FE); Federally Threatened (FT); State Endangered (SE); State Threatened (ST); State Candidate for Listing (SC); State Protected (SP); California Species of Special Concern (CSSC).

4.6.2.1 Federal or State Threatened, Endangered, or Candidate Species

Central California Coast Steelhead (*Oncorhynchus mykiss*). Federal Listing Status: Threatened; State Listing Status: None. The CCC Distinct Population Segment (DPS) of steelhead consists of all runs from the Russian River in Sonoma County south to Aptos Creek in Santa Cruz County, including all steelhead spawning in streams that flow into the San Francisco Bay. In 1998, the NMFS published a final rule to list the CCC DPS as threatened under the FESA (NMFS 1998). Critical habitat for this DPS was designated on September 2, 2005 (NMFS 2005). Critical habitat within Stevens Creek includes all accessible reaches of Stevens Creek (i.e., from the mouth of Stevens Creek to Stevens Creek Dam) (NMFS 2000, 2005).

The steelhead is an anadromous form of rainbow trout that migrates upstream from the ocean to spawn in late fall or early winter, when flows are sufficient to allow them to reach suitable habitat in far upstream areas. In the South Bay, adults typically migrate to spawning areas from late December through early April, and both adults and smolts migrate downstream from February through May. Steelhead typically spawn in gravel substrates located in clear, cool, perennial sections of relatively undisturbed streams, with dense canopy cover that provides shade, woody debris, and organic matter. Steelhead usually cannot survive long in pools or streams with water temperatures above 21 °C, however, they can use warmer habitats if adequate food is available. Steelhead populations have declined due to degradation of spawning and rearing habitat, the introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversion.

Steelhead are known to occur in Stevens Creek from the mouth of the Creek to Stevens Creek Dam, and no barriers to dispersal are present between the study area and the mouth of Stevens Creek (Leidy et al. 2005, NMFS 2005, Smith 2013). Steelhead spawn in reaches of Stevens Creek upstream from the study area. The quality of potential spawning and rearing habitat for CCC steelhead in the lower portion of Stevens Creek along the study area is poor, and no suitable spawning habitat was observed within the study area during the 2016 reconnaissance-level survey, as the streambed was characterized by deposits of sediment. As a result, few individuals, if any, are expected to use habitat in the study area apart from migration. Nevertheless, during wet months, this portion of Stevens Creek functions as a migration corridor for individuals traveling between the San Francisco Bay and higher-quality breeding and rearing habitat farther upstream.

4.6.2.2 California Species of Special Concern

Central Valley Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*). Federal Listing Status: None; State Listing Status: Species of Special Concern. Like the steelhead, the Chinook salmon is an anadromous salmonid. Populations of Pacific salmon have been categorized into Evolutionarily Significant Units by the NMFS; an ESU represents a population of Pacific salmon that is reproductively isolated from other conspecific populations, and is recognized as a distinct evolutionary component of the species (Waples 1991). The Central Valley Fall-run Evolutionarily Significant Unit represents a population of Chinook salmon that migrates from the ocean to spawning streams in late fall and begin spawning in beds of coarse river gravels between October and December. Populations of fall-run Chinook salmon have suffered the effects of over-fishing by commercial fisheries, degradation of spawning and rearing habitat, added barriers to upstream migration, and reductions in

winter flows due to damming. Approximately 40 to 50 percent of the spawning and rearing habitats in Central Valley streams have been lost or degraded. Chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55 °F. Compared to steelhead, Chinook salmon are more likely to spawn in coarse gravels located lower in the watershed.

Chinook salmon did not historically spawn in streams flowing into the South San Francisco Bay. This species was first observed in South Bay streams in the mid-1980s, coinciding with a large groundwater pumping operation that resulted in high flows in the Guadalupe River, even during summer and fall (State Water Resources Control Board 1998, U.S. Environmental Protection Agency 2005). These artificially high summer and fall flows apparently attracted Chinook salmon into South Bay streams. Conditions for successful spawning in Stevens Creek are marginal, because these fish migrate upstream and spawn during fall (occasionally as early as July), when streamflow is at its lowest. Although Chinook salmon are known to spawn in other South Bay streams, there is no evidence that adults are successfully returning to spawn in these streams, and thus there is no evidence that the species has naturalized in South Bay streams (SCVWD 1998-2005, Salsbery 2009).

There is no known documentation that Chinook salmon occur in Stevens Creek. However, Chinook salmon are known to occur in other South Bay streams, and they may occasionally enter Stevens Creek. No suitable spawning habitat was observed within the study area during the 2016 reconnaissance-level survey, as the streambed was characterized by deposits of sediment. Nevertheless, small numbers of fall-run adults from hatchery stock could potentially migrate upstream through the study area from late September through November, and if spawning occurs successfully, juveniles may migrate downstream in January or February.

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas up to 0.25 mi from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 ft of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest. Threats to the western pond turtle include impacts to nesting habitat from agricultural and grazing activities, human development of habitat, and increased predation pressure from native and non-native predators as a result of human-induced landscape changes.

Although breeding populations have been extirpated from most agricultural and urbanized areas in the Project region, individuals of this long-lived species still occur in urban streams and ponds in the Santa Clara Valley. The nearest known population is located in the Lockheed Channel and North Moffett Channel approximately

1.3 mi northeast of the study area. Western pond turtles are unlikely to occur in the study area due to the extremely small areas of foraging habitat present and adjacent high levels of disturbance, and the study area is not expected to support a population of the species. However, it is possible that individual pond turtles from nearby populations could potentially disperse to the study area. Individual western pond turtles may forage in the aquatic habitat in Stevens Creek and/or nest in nearby upland areas, although they would be expected to do so in extremely low numbers, if at all.

Burrowing Owl (*Athene cunicularia*). Federal Listing Status: None; State Listing Status: Species of Special Concern. Burrowing owls are a small, terrestrial owls of open country. These owls inhabit annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels; owls use the abandoned burrows of ground squirrels for shelter and nesting. The nesting season as recognized by the CDFW (CDFG 2012) extends from February 1 through August 31. After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or they may migrate (Rosenberg et al. 2007); young birds disperse across the landscape distances of 0.1 mi to 35 mi from their natal burrows (Rosier et al. 2006). Burrowing owl populations have declined substantially in the San Francisco Bay Area in recent years, with declines estimated at four to six percent annually (DeSante et al. in press, in Rosenberg et al. 2007).

Burrowing owls occur year-round in the Santa Clara Valley (Trulio 2007), and are commonly present in open, agricultural, or grassland areas with active burrows of California ground squirrels. They exhibit strong site fidelity, and may return to a nesting site and attempt to nest even after the site has been developed. However, burrowing owls are increasingly disappearing from "infill" locations on the urban Valley floor. Burrowing owls are known to occur in several locations at Shoreline Park approximately 0.7 mi to the northwest of the La Avenida study area, and at Moffett Federal Airfield approximately 0.8 mi to the east (CNDDB 2016, Cornell Lab of Ornithology 2016). Burrowing owls are not known to occur along Stevens Creek, within the study area, or in immediately adjacent areas. The narrow, highly disturbed habitat within and adjacent to the study area, as well as the presence of tall trees and fences that provide perch sites for predatory raptors, reduce the likelihood that burrowing owls would occur in these areas. However, suitable nesting, roosting, and foraging habitat for burrowing owls is present within and adjacent to the study area, and due to the close proximity of nearby occurrences there is at least a low potential for this species to occur.

Loggerhead Shrike (*Lanius ludovicianus*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting). The loggerhead shrike is a predatory songbird associated with open habitats interspersed with shrubs, trees, poles, fences, or other perches from which it can hunt. Nests are built in densely foliated shrubs or trees, often containing thorns, which offer protection from predators and on which prey items are impaled. The breeding season for loggerhead shrikes may begin as early as mid-February and lasts through July. Nationwide, loggerhead shrike populations have declined significantly over the last 20 years. Loggerhead shrikes are still fairly common in parts of the San Francisco Bay area, but urbanization has reduced available habitat, and local populations likely are declining. Loss and degradation of breeding habitat as well as

possible negative impacts of pesticides are considered the major contributors to the population declines exhibited by this species (Cade and Woods 1997, Humple 2008).

Loggerhead shrikes are known to nest in the Project vicinity where open grassland, ruderal, or agricultural habitat with scattered brush, chaparral, or trees providing perches and nesting sites are present (Bousman 2007b). Suitable nesting habitat is present in the study area and immediately adjacent areas in dense trees and shrubs, with suitable foraging habitat in open grassland areas. Loggerhead shrikes are known to occur at Shoreline Park approximately 0.3 mi north of the study area and on lands owned by NASA approximately 0.3 mi northeast of the study area. However, the species is not known to nest or forage along Stevens Creek within or adjacent to the study area. Further, due to the narrow grassland habitat present, loggerhead shrikes are unlikely to occur on the site other than as occasional foragers. Nevertheless, suitable nesting habitat for this species is present within and adjacent to the study area, and due to the close proximity of nearby occurrences there is some potential for this species to nest within or immediately adjacent to the study area.

San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes, cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is composed of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where populations of brown-headed cowbirds are low (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

The San Francisco common yellowthroat is one of approximately 12 subspecies of common yellowthroat recognized in North America, two of which occur in the Project region. Because subspecies cannot be reliably distinguished in the field, determination of the presence of San Francisco common yellowthroat can be achieved only by locating birds that are actively nesting within the breeding range known for the subspecies. Common yellowthroats nesting in the study area are of the special-status *sinuosa* subspecies (SFBBO 2012).

Within the Project region, the greatest proportion of nesting records of the San Francisco common yellowthroat occur within brackish and freshwater marshes near the edge of the Bay, and in early-successional riparian habitat in broader floodplains (Bousman 2007d). Nests are typically located in extensive stands of bulrushes in brackish marshes and dense cattail beds in freshwater marshes, but the species also nests in forbs in riparian habitats. No individuals of this species were seen or heard in the study area during the 2016 reconnaissance-level survey, although common yellowthroats are known to nest nearby at Crittenden Bridge. Up to one pair of common yellowthroats could potentially nest in herbaceous vegetation along Stevens Creek within or immediately

adjacent to Charleston Road study area or La Avenida Street study area (one pair per study area). Individuals of this subspecies may forage throughout the study area year-round.

4.6.2.3 State Fully Protected Species

White-tailed Kite (*Elanus leucurus*). Federal Listing Status: None; State Listing Status: Fully Protected. In California, white-tailed kites can be found in the Central Valley and along the coast in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations and snags, shrubs, trees, or other substrates for nesting (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines because of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

White-tailed kites are common residents in less-developed portions of the Project region where open grassland, marsh, ruderal, or agricultural habitats are present. A pair of white-tailed kites was observed building a nest at the Charleston Retention Basin in March 2016 within 200 ft of the study area, but this nest was never observed to be active. Suitable nesting habitat for white-tailed kites is present in large trees within and adjacent to the study area along Stevens Creek, on federal lands to the east, and in developed areas to the west. White-tailed kites could potentially nest in trees throughout the study area, although they are less likely to nest in areas with high levels of human disturbance. This species will forage in grasslands throughout the study area year-round.

4.7 Sensitive Natural Communities, Vegetation Alliances, and Habitats in the Project Area

The 2012 IS/EA described the sensitive natural communities, vegetation alliances, and habitats for the Charleston Road study area. This information still applies, and we are not repeating or updating that information here. This section focuses on the environmental setting for the La Avenida Street study area.

4.7.1 Natural Communities of Special Concern in the La Avenida Street Study Area

A query of sensitive habitats in Rarefind (CNDDB 2016) identified two sensitive habitats as occurring within the nine 7.5-minute USGS quadrangles containing or surrounding the La Avenida study area: Valley oak woodland (Rank G3/S2.1) and northern coastal salt marsh (Rank G3/S3.2) (Figure 5). Valley oak woodland is dominated by valley oak (*Quercus lobata*) that proliferate in savanna-like to forest-like stands and is composed of broad-leaf, winter-deciduous species. Valley oak woodland was not recorded in the study area during the June 2016 surveys. Northern coastal salt marsh is characterized by Holland (1986) as occurring along sheltered inland margins of bays, often co-dominated by pickleweed, cordgrass (*Spartina* spp.), and sometimes saltgrass (*Distichlis*

spicata). None of these species/communities were found during the reconnaissance field survey. As a result, natural communities of special concern were determined to be absent.

4.7.2 Sensitive Vegetation Alliances in the La Avenida Street Study Area

One vegetation alliance rated as sensitive by the CDFW on the 2010 Natural Communities List (CDFG 2010) is present within the La Avenida Street study area: Fremont's cottonwood-red willow alliance (G4/S3). No sensitive vegetation alliances occur within the Charleston Road study area due to the paucity of Fremont cottonwoods in the riparian forest areas in that location.

4.7.3 Waters of the U.S./State in the La Avenida Street Study Area

All wetland and aquatic habitats within the study area, including emergent wetland, seasonal wetland, and perennial channel habitats, would be considered sensitive habitats and claimed as waters of the U.S./State. Wetland habitats are limited within the region and provide a number of important ecological functions.

4.7.4 Riparian Habitats in the La Avenida Street Study Area

All riparian forest habitat below the top of bank of Stevens Creek would be considered sensitive habitat due to its functions in protecting water quality, providing bank/sediment stabilization, and supporting high biodiversity, and for its limited distribution within the region.

4.7.5 Ordinance-sized Trees in the La Avenida Street Study Area

No formal tree survey was conducted within the study area. However, impacts on heritage trees located within the boundaries of either study area would necessitate a tree removal permit from the City. Several heritage coast live oak and blue oak trees are present within the study area, and many heritage trees with a circumference of 48 inches or greater are present on federal lands east of Stevens Creek.

4.7.6 Invasive Species in the La Avenida Street Study Area

Invasive plant species can be detrimental to native plant and wildlife habitat. Invasive species can threaten the diversity and abundance of native species through predation, competition for resources, transmission of disease, parasitism, and physical or chemical alteration of the habitat. The California Invasive Plant Council (Cal-IPC) rates invasive plants according to their ecological impact. Many non-native, invasive species are present in the study area. Table 5 below includes a list of species rated as having "moderate" or "high" ecological impacts according to the Cal-IPC (2016). A total of three species with "high" ratings and six species with "moderate" ratings were observed in the study area during the reconnaissance-level field surveys. Of these species, Himalayan blackberry, English ivy, and sweet fennel pose the greatest ecological threat in the study area (Photo 10, Appendix B). These species can all rapidly reduce plant diversity in a variety of habitats by forming monocultures and producing dense cover that severely limits light needed by understory and/or herbaceous plants. Moreover, Himalayan blackberry and English ivy exhibit a vining habit and can strangle trees and shrubs,

and they are especially aggressive invaders as they can spread vegetatively if stems are left in contact with moist soil. Not only can these invasive species substantially reduce the cover of native plants, but Engligh ivy, in particular, also creates a physical barrier to birds foraging on the ground (Cal-IPC 2016).

Table 5. Invasive Plant Species Observed Within the Plan Area with a "Moderate" or "High" Impact Rating According to Cal-IPC (2016)

Scientific Name	Common Name	Cal-IPC Impact Rating
Brassica nigra	Black mustard	Moderate
Carduus pycnocephalus	Italian thistle	Moderate
Cirsium vulgare	Bull thistle	Moderate
Conium maculatum	Poison hemlock	Moderate
Cynodon dactylon	Bermuda grass	Moderate
Dittrichia graveolens	Stinkwort	Moderate
Foeniculum vulgare	Sweet fennel	High
Hedera helix	English ivy	High
Rubus armeniacus	Himalayan blackberry	High

*Cal-IPC ratings depend on species and/or subspecies, which could not be determined at the time of the surveys performed for this investigation

Several invasive animal species are also present in the study area. The American bullfrog has been accidentally and intentionally introduced (e.g., for food in the 1920s by commercial frog farmers) throughout the world and is now established throughout most of the western United States (California Herps 2016), including the Project vicinity. This species' large size, mobility, generalized eating habits (their prey includes native amphibians as well as other aquatic and riparian vertebrates [Graber 1996]), and aggressive behavior have made bullfrogs extremely successful invaders and a threat to biodiversity (AmphibiaWeb 2008).

Non-native species such as feral house cats and Norway rats are known to occur in the study area and are important predators of native birds. Feral cats in particular can have substantial deleterious effects on bird populations.

Section 5. Impacts and Mitigation Measures

CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under State CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

A. "substantially reduce the habitat of a fish or wildlife species"
B. "cause a fish or wildlife population to drop below self-sustaining levels"
C. "threaten to eliminate a plant or animal community"
D. "reduce the number or restrict the range of a rare or endangered plant or animal"

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

A. "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
B. "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
C. "have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act"
D. "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites"
E. "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"
F. "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan"

The 2012 IS/EA described the impacts and mitigation measures for the Charleston Road study area. The majority of the impacts description for the Charleston Road study area still apply, and we are not repeating that information here. However, we are providing one additional impact for the Charleston Road bridge crossing: impacts due to bird collisions. Otherwise, this section focuses on the impacts and mitigation measures for the La Avenida Street study area.

Potential impacts were first evaluated to describe qualitatively how Project activities could impact biological resources, and whether impacts would be temporary (i.e., occurring during Project construction activities and the period immediately following these activities) or permanent. Impacts were then evaluated with the application of biological resource commitments identified in Section 1.2. A determination was then made regarding whether the impacts would be significant, as defined by the significance criteria provided above, and thus require mitigation. For impacts that would remain potentially significant even with the implementation of biological resource commitments, mitigation measures were identified, and the significance of the impacts was re-evaluated to determine if mitigation measures would reduce impacts to a less-than-significant level. Finally, for impacts for which design recommendations are appropriate (beyond the commitments), we provide those in a "Design Recommendations/Considerations" section at the end of that section.

5.1 Charleston Road Bridge Project Impacts

Potential impacts of the proposed Charleston Road Bridge on biological resources are discussed in the 2012 IS/EA (ICF International 2012). Here, we discuss one additional potential impact on biological resources: potential impacts due to bird collisions with the bridge. This impact is added here because it was not explicitly addressed or described in detail in the 2012 IS/EA, and this issue has received a higher level of attention in recent years (e.g., due to the publication of the Precise Plan [City of Mountain View 2014a]).

5.1.1 Impacts due to Bird Collisions with the Charleston Road Bridge

The proposed Charleston Road bridge design includes suspension cables. There is no existing literature evaluating the potential for birds to collide with vertical or angled bridge cables. However, horizontal power lines are known to be a significant cause of avian collisions and mortality (Avian Power Line Interaction Committee 2012). Although bridge cables are typically thicker than power line cables (and hence are more visible to birds), the width of the Charleston Road bridge cables is currently unknown and the radius at which most birds are able to see the cables (versus collide with them) is also unknown.

Many of the birds moving through the Charleston Road bridge study area during spring and fall are nocturnal migrants, which would be flying at altitudes well above the proposed height of the bridge. However, Stevens Creek provides habitat numerous birds, some of which may make north-south movements along the creek corridor at elevations similar to that of the proposed bridge. Many of these birds will attempt to fly over the bridge as they move along the creek, potentially encountering the suspension cables.

In addition, migrating birds, such as songbirds, can be affected by human-built structures because of their propensity to migrate at night and their tendency to be disoriented by artificial light, making them vulnerable to collision with obstructions. Birds migrating at night may be attracted to or confused by sources of artificial light, particularly during periods of inclement weather. Exposure to a light field at night can cause alteration of a straight flight path, and the change in flight path may keep the bird near the light source longer than if the flight path remained straight. Brightly lit bridges or overcrossings can confuse migrating birds, trapping them in the bright light, which they are reluctant to fly out of, until they are exhausted or collide with a structure.

In the absence of protective measures, the potential impacts of the proposed Charleston Road bridge crossing due to bird strikes is potentially significant under CEQA due to the potential for large numbers of birds moving along Stevens Creek to collide with the cables. However, with the implementation of the biological resource commitments described in Section 1.2.1, Project impacts on bird populations due to potential collisions with bridge suspension cables would be less than significant.

5.2 La Avenida Street Bridge Project Impacts Found to be Less Than Significant

5.2.1 Impacts on Water Quality

Water quality in Stevens Creek could be impacted by construction activities within the La Avenida Street study area. Creek bank erosion and sedimentation from the upland staging areas and improper dewatering within the boundaries of the Project area are potential effects of disturbance associated with construction. This would, in turn, also result in indirect impacts on the plant and animal species that occur in aquatic habitats (perennial channel and emergent wetlands) on the site. In the absence of protective measures, these impacts would be significant due to the ecological importance and sensitivity of stream habitats and species, such as fish, that inhabit Stevens Creek. However, these impacts will be avoided and minimized through implementation of the biological resource commitments to protect water quality detailed above in Section 1.3.1; therefore, impacts on water quality will be less than significant.

5.2.2 Impacts of Weed Establishment and Spread

The introduction or spread of noxious and invasive weed species is a special concern for native plants and animals. Noxious and invasive weeds pose a threat to the natural processes of plant community succession, fire frequency, biological diversity, and species composition. Noxious and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding a species by vegetative growth. Invasive weeds occur in all habitat types and can be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are brought in by personnel, vehicles, and other equipment.

Noxious weeds are currently present in the study area, and bridge development could result in the spread of these weeds and/or invasion by other weed species. Areas of disturbance could serve as the source for promoting the spread of these non-native species, which could degrade the ecological values of high-quality wetlands and riparian habitats that occur within and immediately adjacent to the Project area, and adversely affect native plants and wildlife that occur there. Therefore, proposed Project activities could result in potentially significant impacts on the adjacent sensitive habitats. To avoid and minimize the spread of invasive weeds, BMPs will be implemented during construction activities as described in Section 1.3.2. With the incorporation of these measures, Project-related impacts are not expected to cause an increase in invasive species populations within the study area and the impact is considered less than significant.

5.2.3 Impacts on the CCC Steelhead and Central Valley Fall-run Chinook Salmon

In-stream habitats within the La Avenida Street study area (i.e., aquatic habitats within the ordinary high water lines of Stevens Creek) are used at least during migration by the CCC steelhead, and possibly on occasion by the Central Valley fall-run Chinook salmon. Construction of the proposed Project could release excess sedimentation and contaminants into Stevens Creek. Bridge construction materials and loosened soils could enter Stevens Creek during construction, affecting water quality or hindering movement by these fish. Implementation of the SWPPP and BMPs, as described under the biological resource commitments in Section 1.3.1, would minimize impacts due to sedimentation and contaminants entering the channel.

Depending on the bridge design, the Project may result in temporary disturbance of aquatic habitat in Stevens Creek due to dewatering, and the Project may involve the permanent fill of aquatic habitats due to the construction of bridge abutments. Additional Project components such as the modification and stabilization of stream banks, replacement or modification of an existing outfall, and removal or replacement of sakrete could potentially occur as part of the Project. If excessive lighting on the bridge were directed at the creek (i.e., in the absence of the Project's commitments to minimize lighting), such lighting could potentially disorient steelhead, disrupt nocturnal movements and foraging patterns, and increase predation risk in well-lit areas.

Because all in-stream Project activities are scheduled to occur during the dry season (i.e., June 15 through October 15), after emigrating smolts have left and before adults have immigrated to the study area, there is a low probability that direct impacts on migrating CCC steelhead will occur. Although up-migrating Central Valley fall-run Chinook salmon may be present in late summer and fall, few if any Chinook salmon are likely to be in the Project area. Because of the poor habitat quality along the study area, the absence of suitable breeding habitat, and the low likelihood that special-status fish species would utilize these areas for rearing, there is a low potential for juvenile salmonids to be present in the study area when in-stream work activities occur. Therefore, there is a low potential for Project activities to result in any direct effects on individuals of special-status fish species. Nevertheless, if CCC steelhead or Central Valley fall-run Chinook salmon were present in the reaches to be dewatered, individuals trapped within the dewatering area would be likely to suffer injury or mortality caused by stranding, degraded water quality, reduced food supplies, or high water temperatures. The implementation of Project biological resource commitments (see Section 1.3.6) would include the collection and relocation of fish in coordination with dewatering activities. Before and during dewatering, juvenile salmonids and other fish would be captured and relocated away from the work area to avoid direct mortality and minimize the possible stranding of fish in isolated pools. However, the relocation of such individuals poses a risk of injury. Relocated fish may endure short-term stress from crowding at the relocation site, and they may have to compete with other fish causing increased competition for available resources such as food and habitat. This impact is not expected to adversely affect the survival chances of individual steelhead or Chinook, or their populations within the Stevens Creek watershed, based on the small area that will be affected and the small number of salmonids likely to be relocated. Nevertheless, individual special-status fish might be killed or injured while being handled (e.g., during relocation). Due to the regional rarity of special-status fish, such impacts would be significant under CEQA. Therefore, the Project's biological

resource commitments (see Section 1.3.6) include measures to minimize potential impacts on steelhead as a result of relocation activities.

Instream construction activities are limited to the period between June 15 and October 15, when flows in Stevens Creek are typically low. Thus, the construction of temporary cofferdams in this creek is not expected to adversely affect the movements of juvenile special-status fish. Rather, the cofferdams would restrict movements of juvenile steelhead in a manner similar to that faced during seasonally normal low-flow conditions.

Overall, Project activities would have limited effects on potential habitat for special-status fish species in Stevens Creek. The area of stream at the La Avenida Street study area does not provide deep pools, undercut banks, cobble, or other beneficial habitat features for special-status fish. Thus, the construction of bridge abutments or modifications to the bed and banks of the stream at this location is not expected to reduce important habitat quality for these species in Stevens Creek substantially, even if those structures encroach into the channel. Nevertheless, it is possible that such structures could hinder upstream or downstream movements if they are placed in the low-flow channel.

The Project may result in both permanent and temporary impacts on riparian habitat along Stevens Creek, which can potentially affect shading of the creek and provision of coarse woody debris to the creek if riparian trees are removed or trimmed. However, the majority of riparian trees within the study area are located on the west bank of Stevens Creek, and hence only provide shading for the creek for a few hours of the day. Thus, even a substantial loss of trees within the study area is not expected to result in a substantial increase in water temperature within Stevens Creek.According to the Fisheries Hydroacoustic Working Group (2008), fish may be injured or killed when underwater pile driving sound levels exceed the peak threshold of 206 dB or cumulatively exceeds 187 dB sound exposure level. With conservative estimates, only where impact pile driving occurs within 20 ft of aquatic habitat in Stevens Creek could underwater sound levels cumulatively exceed the 187 dB sound exposure level threshold. Due to the regional rarity of special-status fish, such impacts would be significant under CEQA. The implementation of biological resource commitments described in Section 1.3.5 would ensure that dewatered areas of Stevens Creek extend a minimum of 30 ft from pile driving locations. Thus, no injury or mortality of fish is expected to occur as a result of pile driving.

With the implementation of the biological resource commitments described in Section 1.3.6, Project impacts on the CCC steelhead and Central Valley fall-run Chinook salmon would be less than significant.

Design Recommendations/Considerations

We recommend avoiding permanent impacts to fish habitat in Stevens Creek by constructing all permanent structures, such as bridge abutments, outside the channel. Even if such structures have to be constructed within the banks of the creek, they should not be constructed within the low-flow channel.

5.2.4 Impacts on the Western Pond Turtle

Western pond turtles may occur in aquatic habitat along Stevens Creek. Individual pond turtles may occasionally disperse across upland portions of the Project area, and there is some potential that they could occasionally use uplands for nesting. However, pond turtles are unlikely to excavate nests on the levees of Stevens Creek due to the dense, compacted nature of the soils that are present.

Project activities would result in the permanent and temporary loss of foraging and dispersal habitat for western pond turtles, and could potentially result in the injury or mortality of individuals due to worker foot traffic, equipment use, or vehicle traffic. Seasonal movements of pond turtles may be temporarily affected during Project activities because of disturbance, and dewatering activities may expose individuals to a greater risk of predation and interfere with predator detection, causing a decrease in time spent foraging. Petrochemicals, hydraulic fluids, and solvents that are spilled or leaked from construction vehicles or equipment may kill individuals. Additionally, increases in human presence and activity in the vicinity of suitable habitat during construction may result in an increase in native and non-native predators that would be attracted to trash left at the work site. For example, raccoons, American crows, and common ravens (*Corvus corax*) are attracted to trash and may prey opportunistically on western pond turtles.

Project activities may also affect upland habitat used for nesting outside the bed and banks of Stevens Creek. For example, individual turtles or their eggs may be harmed or killed during Project activities due to worker foot traffic, equipment use, or vehicle traffic or due to burial (e.g., during grading).

The Project could result in the permanent loss of potential western pond turtle foraging and dispersal habitat in Stevens Creek (i.e., riparian forest, seasonal wetland, perennial channel, and emergent wetland habitats). Project activities requiring dewatering of Stevens Creek would temporarily impact any western pond turtles that might be using these portions of the site. In-stream water quality could also be affected by Project activities, as described above.

The Project area does not provide important or extensive foraging habitat that is used regularly or by large numbers of western pond turtles, and is not heavily relied upon by a breeding pair of this species. Thus, impacts on habitats for western pond turtles resulting from the proposed Project would be very limited. However, due to the regional rarity of this species, Project impacts on individual western pond turtles would be considered significant under CEQA. The implementation of Project biological resource commitments (see Section 1.3.7) would include a preconstruction survey for western pond turtles prior to the start of work activities and relocation of any individuals that are found. With the implementation of this measure, the Project will minimize potential impacts on western pond turtles as a result of construction activities.

5.2.5 Impacts on Common and Special-status Bats

Two bat species designated as California species of special concern, the western red bat and pallid bat, may be present in the study area. Western red bats may occur in the study area in low numbers as migrants and winter

residents, and may roost in foliage in trees virtually anywhere in the study area. Pallid bats may be present in the study area as occasional foragers throughout the study area. Neither of these species is expected to breed in the study area, and no roosting habitat for pallid bats occurs in the study area. The hoary bat, a common species of bat, may also roost in foliage in trees and forage throughout the study area. Hoary bats may also breed in the study area, but breeding individuals in the region are very rare. Other common bat species, such as the Yuma myotis (*Myotis yumanensis*) and California myotis (*Myotis californicus*), will forage in the study area, but no roosting habitat for these species is present.

Project construction will temporarily reduce the availability of suitable foraging habitat for these species and the construction of the new bridge will permanently alter the extent of these habitats in the study area. However, the loss or conversion of these habitats within will affect only a very small proportion of regionally available foraging habitat for these species. Thus, given the relative abundance of natural habitats in the Project region, disturbance to and loss of regionally common natural habitats as a result of Project implementation is considered a less-than-significant impact on foraging habitat for special-status bats.

Project construction could result in the loss of roosting sites for western red bats and hoary bats due to tree removal. Further, western red bats and hoary bats are not colonial, and the permanent loss of a roost site (e.g., tree) would not result in a substantial impact on local or regional populations as only individuals, not entire colonies, would be affected. Suitable roost sites for these species are expected to be widespread enough that the loss of a roost site resulting from Project activities would not necessitate compensatory mitigation.

If trees that contain individual roosting bats are removed, modified, or exposed to increased disturbance, individual bats could be physically injured or killed, subjected to physiological stress as a result of being disturbed during torpor, or subjected to increased predation due to exposure during daylight hours. Adult bats are likely to flush from trees when approached by heavy equipment, before trees themselves are impacted, so that injury or mortality is unlikely, but young bats that are unable to fly are vulnerable to injury or mortality during tree removal. However, western red bats and hoary bats are not colonial. Thus, the permanent loss of a roost site (e.g., tree) would not result in a substantial impact on local or regional populations as only individuals, not entire colonies, would be affected. Further, suitable roost sites for these species are expected to be widespread enough that the loss of a roost site resulting from Project activities would not necessitate compensatory mitigation.

Because all bats are protected under the California Fish and Game Code, the injury or death of individual hoary bats during Project activities would be considered significant under CEQA (due to a conflict with a state regulation protecting biological resources). The implementation of Project biological resource commitments (see Section 1.3.10) would include a preconstruction survey for breeding hoary bats prior to the start of work activities. With the implementation of this measure, the Project will minimize potential impacts on breeding hoary bats as a result of construction activities.

5.2.6 Impacts on the Burrowing Owl

The burrowing owl, a California species of special concern, has been regularly documented roosting and foraging in grassland habitats northern Mountain View (e.g., at Shoreline Park and Moffett Federal Airfield) over the past decade, and are known to be present in these areas (CNDDB 2016, Cornell Lab of Ornithology 2016, Santa Clara County bird data, unpublished; South Bay Birds List-serve 2016). Suitable habitat for this species (i.e., grassland areas with burrows of California ground squirrels) is present east of Stevens Creek on lands owned by NASA, and burrowing owls could potentially nest, roost, or forage in these locations. Burrowing owls are not expected to be present on levees along Stevens Creek, as soils on these levees are too engineered and compacted to allow ground squirrels to excavate suitable burrows, and due to high levels of human disturbance along Stevens Creek Trail.

Impacts from the proposed Project may affect burrowing owl habitat (nesting, foraging, and roosting) and/or individuals. Because they nest underground, individual burrowing owls (especially young or adults in burrows) may be killed or injured during Project activities from trampling by construction personnel or equipment. Project activities that occur in close proximity to active burrows may disturb owls to the point of abandoning their burrows, including active nests, eggs, and young. In addition, clearing and grading for levee enlargement, maintenance road improvements, floodwall construction, and staging areas could result in the direct loss of habitat or individuals through the disturbance of grassland areas that support ground squirrel burrows.

Burrowing owls seem to occur more widely in the South San Francisco Bay in winter than they do during the nesting season. For example, burrowing owls occur on Coyote Ridge and in Coyote Valley during winter, but they have not been recorded lingering into spring and summer to nest in those areas in recent years. This suggests that wintering habitat for burrowing owls is not limiting the species' South San Francisco Bay populations. As a result, impacts of proposed Project activities on wintering owl habitat, including burrows that were occupied by owls only during the winter but that were not used for nesting, are not expected to affect appreciably regional populations of this species. However, as the availability of grassland habitat used for nesting in the Project region continues to dwindle because of development, the South San Francisco Bay nesting population of burrowing owls faces extirpation caused by lack of sufficient suitable nesting and nesting-season foraging habitat and isolation from other populations and habitat areas. Therefore, impacts on individual burrowing owls (at any time of year) and occupied nesting habitats resulting from the proposed Project would contribute to the broader-scale decline in regional burrowing owl populations.

Burrowing owls have been documented roosting, nesting, and foraging in grassland habitats along the edges of the Bay to the north, at Shoreline Park, and at Moffett Federal Airfield to the east. This occupied habitat is not contiguous with potentially suitable nesting, roosting, and foraging habitat that is present within the study area, and burrowing owls are not known to occur within the study area despite the high degree of coverage of the area by birdwatchers walking the Stevens Creek Trail. Although there is some potential for habitat within the study area to be used as nesting, roosting, or foraging habitat by burrowing owls, and the Project would result in temporary and permanent impacts to this habitat, the value of this habitat to burrowing owls is very low (as

evidenced by the lack of occurrences). Therefore, impacts to potential habitat resulting from the Project would not substantially affect this species' populations.

There is some potential for the proposed Project to result in the loss of active nests of the burrowing owl, in the unlikely event that owls nested in the Project area. The loss of individual owls, including active nests, would be potentially significant. However, the Project would implement biological resource commitments (described in Section 1.3.8) to reduce potential harm to burrowing owls during construction. Implementation of these commitments would ensure that active burrowing owl nests are not disturbed and that individuals are safely relocated, if necessary, before their burrows are impacted. With implementation of these commitments, Project impacts on burrowing owls would be less than significant.

5.2.7 Impacts on Habitat for and Individuals of Certain Breeding Special-status Birds

Two special-status birds that are considered California species of special concern, the loggerhead shrike and common yellowthroat, and one fully protected species, the white-tailed kite, could potentially nest within or immediately adjacent to the study area. Based on our site observations, the areal extent of the site, and known breeding densities of these species, it is likely that no more than one pair of white-tailed kites, loggerhead shrikes, or common yellowthroats could potentially nest within or immediately adjacent to the La Avenida study area.

Project activities (e.g., clearing of vegetation and removal of trees) would result in the loss of potential nesting and foraging habitat for these species due to the permanent loss and temporary disturbance of habitats. If vegetation clearing occurs during the nesting season (roughly March 1 through August 1 for these species in Santa Clara County), adult birds are not expected to be killed or injured as they can easily fly from the work site prior to such effects occurring. However, eggs or young in nests may be destroyed by Project personnel or equipment. Project activities during the nesting season that cause a substantial increase in noise or human activity near active nests may also result in the abandonment of active nests (i.e., nests with eggs or young).

Because the number of nesting pairs that could be disturbed is very small, the Project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a substantial adverse effect. Further, implementation of biological resource commitments to protect nesting birds (see Section 1.3.9) would reduce impacts on individual loggerhead shrikes, common yellowthroats, and white-tailed kites through the identification of active nests and implementation of non-disturbance buffers around such nests. Therefore, this impact is less than significant.

5.2.8 Impacts due to Bird Collisions

As described in Section 5.1.1 for the Charleston Road bridge crossing, the La Avenida Street bridge crossing could affect resident or migratory bird species by increasing the amount of artificial lighting in the study area. In addition, if the design of the bridge incorporates suspension cables, the cables may pose a collision risk to birds that move through the area, especially those species likely to fly over the bridge deck. In the absence of

protective measures, the potential impacts of the proposed La Avenida Street bridge crossing due to bird collisions is potentially significant under CEQA. The Project will implement biological resource commitments, including bird-friendly bridge design and minimizing night lighting, to minimize impacts on migratory bird populations due to collisions. If the bridge design will incorporate suspension cables, the Project will also incorporate BFDs as described in Section 1.4.11.

Design Recommendations/Considerations

We recommend that the bridge crossing be designed to exclude suspension cables to avoid creating a potential collision risk for birds. In addition, we recommend the overcrossing structure not include highly reflective surfaces that could reflect vegetation or the sky, transparent surfaces such as clear glass, or features such as small wires or netting that could injure birds. We also recommend that the profile of the bridge be as low as possible to minimize any impediment the bridge might pose for birds flying over the bridge.

5.2.9 Impacts on Habitat Connectivity and Wildlife Movement

The wetland, riparian, and non-native grassland habitats along Stevens Creek serve as a movement pathway for terrestrial species, providing vegetative cover and foraging opportunities. Common, urban-adapted species such as raccoons, striped skunks, and the non-native Virginia opossum may use the vegetation along Stevens Creek to move north and south through the Mountain View area. Small mammals, such as mice and shrews, will also use this vegetation to move between habitats. The removal of a portion of this habitat during bridge construction will create a gap of open, developed habitat along this corridor, which any wildlife species traveling along this corridor must cross in order to traverse the study area. However, this habitat is already patchy within the study area (Figure 4) and the creation of a new gap in this habitat is not expected to isolate contiguous, high-quality areas of these habitats or substantially inhibit the movement of wildlife species. Rather, terrestrial species such as mammals and reptiles that move along the creek are likely to move under the bridge. Because the many terrestrial wildlife species that use this habitat are acclimated to high levels of disturbance and existing fragmented habitats in the Mountain View area, this is not expected to result in significant impacts on the movements of individuals, and would not rise to the level of a substantial adverse effect on habitat connectivity and wildlife movement under CEQA.

Similarly, the habitats along Stevens Creek provide a high-quality movement pathway for birds. However, the riparian habitat within the La Avenida Street study area is of limited extent, as previous disturbances have fragmented this habitat and large gap in the riparian forest is currently present. Thus, the proposed bridge crossing will affect a segment of Stevens Creek with only limited, low-quality habitat for birds due to past disturbances. Although the Project will result in some habitat loss that will affect bird use along Stevens Creek, due to the low quality of the habitat that will be affected, and because ample riparian habitat will remain elsewhere along Stevens Creek, the overall, larger reach of creek that includes the study area will still be valuable to breeding and migratory birds following Project construction. This impact would not rise to the level of a substantial adverse effect on habitat connectivity and wildlife movement under CEQA.

Project construction could temporarily disrupt wildlife movement pathways through the Stevens Creek corridor. Increased human activity during construction could deter terrestrial and aquatic wildlife from moving through the bridge construction area. However, these common wildlife species would continue to use the area during the night and other non-working hours of the day, such as early morning and evening. In addition, the Stevens Creek corridor is already frequented daily by pedestrians and cyclists using the Stevens Creek trail, and wildlife species occurring in the corridor are habituated to this human presence. The reach of Stevens Creek in the vicinity of the La Avenida Street study area passes under and through several major streets, bridges, and man-made structures, such as U.S. Route 101, and the addition of the proposed bridge crossing would not result in a substantial increase in interruption of use of the creek by aquatic wildlife or upland reptiles and mammals. Thus, potential impacts on wildlife movement resulting from Project construction do not meet the CEQA standard of having a substantial adverse effect, and would not be considered significant under the CEQA.

Design Recommendations/Considerations

Bridge design should minimize impacts to riparian habitat, particularly permanent impacts, to the extent feasible.

5.3 La Avenida Street Bridge Project Impacts Found to be Less Than Significant with Mitigation

5.3.1 Impacts on Wetland and Stream Habitats

Wetlands provide substantial habitat value for wildlife, providing foraging and dispersal opportunities for aquatic-dependent species. These habitats also contribute substantially to regulating water quality functions within the area. Streams convey watershed flows and provide important habitat for aquatic wildlife in the project region. Additionally, both habitats are considered sensitive by regulatory agencies.

Impacts to these habitats could occur from grading, placement of bank stabilizing fill, or via structures within the creek banks, such as bridge abutments or piers, shading of wetlands and inhibition of regeneration of wetland vegetation (especially if the bridge is very low), loss of wetland vegetation, and dewatering and construction access (temporary). Permanent (and direct) impacts to wetlands and streams could also occur from placement of hardscape or piers associated with the bridge supports, and from shading by the new bridge deck. Temporary (and direct) impacts to wetlands and aquatic habitat within the Project area could occur as a result of construction access and dewatering activities. Because wetland and stream communities are considered sensitive habitats and provide a wide range of biological functions for fish and wildlife, any impact on wetland and stream habitats would be considered potentially significant.

Environmental commitments will avoid and minimize impacts on sensitive and jurisdictional habitats by implementing erosion and sedimentation control measures, and BMPs for work near aquatic environments (see Section 1.3.1 above). In addition, compensatory mitigation for impacts on riparian forest and wetlands will be

provided as described below. With these measures, these impacts would be considered less than significant. Impacts to animals using wetland and riparian habitats are discussed separately.

Mitigation Measure 1. Mitigation for the Permanent Loss of Wetlands and Stream Habitat. An assessment of impacts shall be conducted that maps all wetlands and streams impacted through ground disturbance, access, and fill and structure placement. All wetlands that will be permanently impacted (i.e., would not be expected to re-established naturally within 1 year of construction, including through shading from the bridge) will be mitigated through purchase of credits at a wetland mitigation bank at 1:1 (impact:mitigation), or through the creation or restoration of wetlands at a 2:1 ratio. Any loss of non-wetland stream habitat from permanent fill placed within the ordinary high water marks of the stream will be mitigated through purchase of credits or creation of similar aquatic habitat, at a 1:1 ratio. Created or restored wetlands or aquatic habitat will be designed and monitored according to a wetlands mitigation and monitoring plan (MMP) with specific success criteria and monitored for at least 5 years. This plan is subject to approval by the City.

The MMP will be prepared by a qualified restoration ecologist and will provide the following:

- Brief summary of the proposed project
- Summary of habitat impacts and proposed mitigation, including:
  - brief description of functions and values of regulated habitats, wildlife and botanic resources in the impact area(s)
  - quantification of regulated habitat impacts (e.g. surface area, stem count, etc.)
  - map showing the habitat impact locations
  - basis for proposed mitigation
- Description of the primary goal(s) of the mitigation
- Location of mitigation site(s) and description of existing site conditions (both physical and biotic), including photo-documentation
- Mitigation design:
  - soil amendments and other site preparation elements as appropriate
  - conceptual planting plan
  - conceptual irrigation and maintenance plans
- Monitoring plan (including final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule); at a minimum, success criteria for created wetlands will include percent cover by native wetland vegetation of at least 50% in year 5, and success criteria for creek mitigation will include the attainment of Corps-jurisdictional wetland or aquatic habitat in an extent that meets the 1:1 mitigation requirement
- Remedial measures/adaptive management plan for mitigation elements that do not meet performance or final success criteria

- Appendix with photo-documentation of project site (pre-impact) and mitigation site(s) (pre-impact)

Regulatory permits will be sought for all impacts to wetlands and streams from the USACE, RWQCB, and CDFW. The project will comply with all permit conditions required by these approvals; in the event that regulatory agency permit conditions differ from the mitigation measures in this document, the permit conditions will govern.

Design Recommendations/Considerations

We recommend designing the bridge to clear span the channel to the extent feasible, and to not design piers or other permanent support structures in the channel where these could obstruct flows and/or affect channel capacity or erosion patterns. Raising the bridge deck to accommodate the Stevens Creek Trail may also reduce shading of wetlands in the creek channel, and/or aid in avoiding the need for some riparian or heritage tree removal (see Section 5.3.2 and 5.3.3). Abutments would be less impactful on the banks if placed in areas already impacted by sakrete bank stabilization.

5.3.2 Impacts on Riparian Forest and Trees

Riparian forest is a highly productive habitat due to its structural diversity, and it provides abundant food, cover, and breeding habitat for wildlife. Like wetlands, as an integral part of the vegetation surrounding and supporting stream systems, these habitats also contribute to watershed drainage and water quality function within the area. Riparian forest is considered a sensitive habitat type.

Impacts that could occur to riparian habitat from project implementation are very similar to those that could occur to wetland habitats. Permanent, direct impacts could occur from grading, placement of bank stabilizing fill, or via structures placed within the creek banks, such as bridge abutments or piers, improvements leading to loss of riparian trees, shading of riparian habitats and inhibition of regeneration of these habitats (especially if the bridge is very low), and construction access within the riparian banks if this also requires the removal of trees. Grading under the driplines of existing trees to remain within the riparian habitat in the study area will be avoided and minimized to the extent feasible, with a qualified arborist developing a tree protection plan as described in Sections 1.3.3 and 1.3.4. Tree removal or disturbance sufficient for a qualified arborist to assume tree death would be mitigated as described below.

Mature tree removal would directly impact the existing tree canopy in wetland and riparian habitats in the study area. In addition, tree removal could impact bank stability because of the stabilizing root balls of trees within the creek banks. Where riparian habitat is present, wetland habitat would be indirectly impacted by tree removal as a result of opening up the canopy of willows which would increase incident sunlight reaching the water and vegetation below. Because riparian communities are considered sensitive habitats and provide a wide range of biological functions for fish and wildlife species, any impact on riparian forest or trees would be considered significant under CEQA. Measures to avoid and minimize impacts from tree removal on wetland, riparian, and associated plant and wildlife species include providing replacement trees, and protecting existing vegetation.

Tree removal for the Project must be carefully considered on an individual tree basis and in coordination with the City. Development of a tree preservation plan as discussed in Section 1.3.3 will help to avoid the maximum number of trees within Project work areas. The implementation of the tree preservation plan and the mitigation measure provided below will reduce this impact to less than significant.

Mitigation Measure 2. Mitigation for the Loss of Riparian Trees and Forest. Loss of riparian trees (as determined by trees within the work area unable to be marked and protected as preserved in the arborists' tree preservation plan) will be mitigated by providing in-kind riparian plantings at the following ratios: 5:1 (replacement trees to impacted trees) for oaks 16-inch diameter at breast height (dbh) and greater, and 3:1 (replacement trees to impacted trees) for smaller oaks and all other native riparian trees. A mitigation and monitoring plan describing the location, manner of planting, species planting list, success criteria, and a reporting schedule covering at least 10 years post-planting, will be developed and approved by the City. This plan will conform to the same requirements of the wetlands and stream mitigation plan as listed in Mitigation Measure 1. At a minimum, success criteria will include a minimum 70% canopy cover by native riparian trees within the planting area at year 10.

Regulatory permits will be sought for all impacts to riparian forest habitat and riparian trees from the RWQCB and CDFW. The project will comply with all permit conditions required by these approvals; in the event that regulatory agency permit conditions differ from the mitigation measures in this document, the permit conditions will govern.

Design Recommendations/Considerations

See recommendations for wetland and stream habitats above. A raised bridge deck similar to the design proposed for Charleston Road may allow the avoidance of more large trees located on the top of the western bank of Stevens Creek within the La Avenida Street study area.

5.3.3 Impacts on Heritage Trees

Heritage trees are protected by City ordinance, and therefore their removal could conflict with local ordinances. Though a formal tree survey has not been conducted at the La Avenida Street study area, it is unlikely that heritage trees would be impacted by construction activities along the eastern banks of Stevens Creek due to the large gap in the canopy on the eastern bank of the creek within the study area. However, we noted several coast live oaks of a size meeting the criteria for heritage trees along the western bank of Stevens Creek, as well as many trees of other species of a size meeting the criteria for heritage trees on federal lands east of Stevens Creek. Because the City requires a Heritage Tree Removal permit for the removal of heritage trees, the removal of heritage trees without a permit would be considered significant under CEQA (due to a conflict with a local ordinance protecting biological resources). The Project will comply with the heritage tree biological resources commitment described in Section 1.3.3, which requires surveys by a qualified arborist and the preparation of a tree preservation plan for trees that will not be impacted. However, if heritage trees will be removed, mitigation

would also be required. Implementation of Mitigation Measure 3 will ensure compliance with the City's tree ordinance and reduce this impact to a less-than-significant level.

Mitigation Measure 3. Mitigation for the Removal of Heritage Trees. Trees that may be removed during Project implementation will be surveyed by a qualified arborist to document health, structure, size, species, and other relevant data, including potential qualification as heritage trees. The arborist's report, prepared as described under Biological Resource Commitments in section 1.3.3, will clearly identify all Heritage trees to be removed by the project. Where these trees are not located within riparian forest (see 5.3.2), and subject to riparian replacement ratios, the impacted non-riparian Heritage trees will be replaced at a ratio of at least 1:1 (impacts to mitigation), with native trees such as coast live oak. A planting plan describing the location of plantings and species to be planted will be prepared and approved by the City.

Design Recommendations/Considerations

Heritage trees should be avoided to the extent feasible. A raised bridge deck similar to the design proposed for Charleston Road may allow the avoidance of more large trees located on the top of the western bank of Stevens Creek within the La Avenida Street study area.

5.4 Cumulative Impacts on Biological Resources for the La Avenida Street Bridge

Cumulative effects arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. The proposed Project, in combination with other projects in the area and other activities that affect the resources affected by the Project, could contribute to cumulative effects on biological resources. Other projects include both development and maintenance projects that could adversely affect these resources, as well as restoration projects that will benefit these resources. In the portion of Mountain View north of Highway 101, such projects include the SCVWD's Stream Maintenance Program, projects under the City's General Plan and Precise Plan, activities at Moffett Federal Airfield, and restoration activities according to the South Bay Salt Ponds Restoration Project.

The projects listed above, as well as any project that occurs in the future in similar habitats in this area of Santa Clara County, will result in impacts on biological resources, and many of those projects would impact the same types of biological resources that will be impacted by construction activities for the proposed Project. The cumulative impact on biological resources resulting from Project implementation in combination with other projects in the region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit to these resources of impact avoidance and minimization efforts prescribed by applicants, planning documents, CEQA mitigation measures, and permit requirements for each project; compensatory mitigation and proactive conservation measures associated with each project; and the benefits to biological resources accruing from implementation of each project. In the absence of avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, it is expected that most current and future projects in the region, including all of the projects listed above, will mitigate these impacts through CEQA, the Fish and Game Code 1602, and/or the CWA Section 404/401 permitting process, as well as through the FESA Section 7 consultation process and, possibly, CESA consultation. As a result, these other projects are expected to implement mitigation for substantial impacts on biological resources as is being required of the proposed Project. Further, the goals of the City's Precise Plan and General Plan include protecting sensitive biological resources and promoting a sustainable community within the North Bayshore area, which are expected to result in long-term benefits to many of the existing biological resources within this area. Similarly, the South Bay Salt Ponds Restoration Project will result in habitat restoration for a number of tidal marsh and managed pond-associated species. Therefore, no significant cumulative impacts on biological resources are expected to occur.

5.5 Comparison of Impacts between the Charleston Road and La Avenida Street Bridge Crossings

The majority of impacts of the proposed bridge crossings at Charleston Road and La Avenida Street are qualitatively similar. A quantitative comparison of impacts between the two bridges is not currently possible as no design is available for the proposed La Avenida Street bridge crossing and the exact impact area for the Charleston Road bridge crossing is unknown. Thus, this section qualitatively describes impacts that are different between the two bridges, or that may be different depending on the design of the La Avenida Street bridge.

The primary difference between the Charleston Road and La Avenida Street bridge crossing designs is that the Charleston Road bridge crossing has been designed to span Stevens Creek and its levees, while it is possible that the design for the La Avenida Street bridge crossing could result in permanent impacts or placement of structures such as abutments within the bed and banks of Stevens Creek (i.e., if the La Avenida Street bridge does not span the channel). If the La Avenida Street bridge crossing includes bridge abutments within the bed and banks of the creek, this results in the following potential differences in impacts on biological resources between the two bridges:

- The La Avenida Street bridge crossing may impact wetland, creek, and riparian habitats in Stevens Creek. The Charleston Road bridge crossing will free-span riparian and aquatic habitats associated with Stevens Creek and will not permanently impact wetland and riparian habitats.
- The La Avenida Street bridge crossing may have direct impacts on aquatic habitat for the CCC steelhead, Central Valley fall-run Chinook salmon, and western pond turtle. The Charleston Road bridge crossing will free-span aquatic habitats in Stevens Creek., and will not impact aquatic habitat for these species.
- The construction of the La Avenida Street bridge crossing may have direct impacts on individual CCC steelhead and Central Valley fall-run Chinook salmon during dewatering activities. No dewatering would occur as part of the construction of the Charleston Road bridge crossing, and the Charleston Road bridge would not directly impact individuals of these species.

However, we anticipate that the City of Mountain View will likely design the La Avenida Street bridge crossing to span Stevens Creek in accordance with our recommendations in Sections 5.2 and 5.3 above. Assuming that the La Avenida Street bridge is designed to avoid placement of structures within the bed or banks of Stevens Creek, potential differences in impacts on biological resources between the two bridges would be as follows:

- It is likely that the La Avenida Street bridge crossing cannot avoid impacts to some riparian forest habitat near the top of the western bank. Even if no part of the bridge structure is placed within the banks of the creek, these trees are present near the top of bank (where no analogous riparian habitat is present at the Charleston Road bridge site) and would either need to be cut substantially or shaded closely by the bridge structure above. As a result, we expect some loss of riparian forest from the La Avenida Street bridge, whereas the Charleston Road bridge crossing will be high enough above the riparian habitat along the immediate Stevens Creek channel that no significant direct impacts to riparian forest will result from the Charleston Road bridge.

- However, indirect impacts on riparian habitats and wildlife in the bed and banks of Stevens Creek (e.g., impacts due to shading) would be lower overall at the La Avenida Street bridge crossing because of the existing gap in the riparian canopy at this location. In contrast, these impacts would be higher at the Charleston Road bridge crossing as the riparian canopy in this study area is more extensive. Such indirect impacts are less than significant, in our opinion, but riparian wildlife in the trees around the Charleston Road bridge will be closer to the bridge structure itself, and thus potentially subject to somewhat greater disturbance from bridge use, than the more depauperate wildlife communities present in the more open, less well-vegetated La Avenida Street bridge study area.

In addition, the Charleston Road bridge crossing, which consists of a suspension bridge with cables, presents a potential collision risk for birds. The La Avenida Street bridge crossing may or may not present such a collision risk for birds depending on the bridge design (i.e., if the La Avenida Street bridge does not include cables, or extensive reflective or transparent surfaces, then bird collision risk would be low).

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Appendix A. List of Existing Vegetation in the La Avenida Street Study Area

Family	Scientific Name	Common Name
Apiaceae	*Conium maculatum*	poison hemlock
Apiaceae	*Foeniculum vulgare*	sweet fennel
Apiaceae	*Torilis arvensis*	spreading hedgeparsley
Araliaceae	*Hedera helix*	English ivy
Asteraceae	*Baccharis pilularis*	coyotebrush
Brassicaceae	*Brassica nigra*	black mustard
Asteraceae	*Carduus pycnocephalus*	Italian thistle
Asteraceae	*Cirsium vulgare*	bull thistle
Asteraceae	*Cotula coronopifolia*	brass buttons
Asteraceae	*Dittrichia graveolens*	stinkwort
Asteraceae	*Lactuca serriola*	prickly lettuce
Asteraceae	*Picris echioides*	bristly oxtongue
Asteraceae	*Senecio vulgaris*	Old man in the spring
Asteraceae	*Silybum marianum*	blessed milkthistle
Asteraceae	*Tragopogon sp.*	salsify
Asteraceae	*Xanthium strumarium*	rough cockleburr
Brassicaceae	*Lepidium latifolium*	broad-leafed peppergrass
Brassicaceae	*Raphanus sativus*	wild radish
Cupressaceae	*Juniperus sp.*	juniper
Cyperaceae	*Carex sp.*	sedge
Cyperaceae	*Cyperus eragrostis*	umbrella sedge
Cyperaceae	*Schoenoplectus americanus*	chairmaker's bulrush
Equisetaceae	*Equisetum arvense*	field horsetail
Euphorbiaceae	*Chamaesyce sp.*	spurge
Fabaceae	*Melilotus officinale*	sweetclover
Fabaceae	*Vicia americana*	American vetch
Fagaceae	*Quercus agrifolia*	coast live oak
Fagaceae	*Quercus douglasii*	blue oak
Malvaceae	*Lavatera cretica*	Cornish mallow
Malvaceae	*Malva parviflora*	cheeseweed mallow
Myrtaceae	*Eucalyptus sideroxylon*	red ironbark
Nelumbonaceae	*Lotus corniculatus*	bird's foot trefoil
Oleaceae	*Ligustrum L.*	privet
Onagraceae	*Oenothera elata*	evening primrose
Pinaceae	*Pinus pinea*	Italian stone pine
Plantaginaceae	*Plantago lanceolata*	narrowleaf plantain
Plantaginaceae	*Veronica anagallis-aquatica*	water speedwell

Family	Scientific Name	Common Name
Platanaceae	*Platanus acerifolia*	London planetree
Poaceae	*Agrostis stolonifera*	creeping bentgrass
Poaceae	*Bromus diandrus*	ripgut brome
Poaceae	*Bromus hordeaceus*	soft brome
Poaceae	*Cynodon dactylon*	Bermudagrass
Poaceae	*Dactylis glomerata*	orchard grass
Poaceae	*Deschampsia cespitosa*	tufted hairgrass
Poaceae	*Festuca perennis*	Italian ryegrass
Poaceae	*Hordeum murinum*	hare barley
Poaceae	*Phalaris aquatica*	bulbous canarygrass
Poaceae	*Polypogon monspeliensis*	annual rabbitsfoot grass
Polygonaceae	*Persicaria hydropiperoides*	swamp smartweed
Polygonaceae	*Polygonum sp.*	knotweed
Polygonaceae	*Rumex crispus*	curly dock
Rosaceae	*Prunus sp.*	chokecherry
Rosaceae	*Rubus armeniacus*	Himalayan blackberry
Rubiaceae	*Galium sp.*	galium
Salicaceae	*Populus fremontii*	Fremont cottonwood
Salicaceae	*Salix laevigata*	red willow
Tropaeolaceae	*Nasturtium officinale*	watercress
Typhaceae	*Typha sp.*	cattails
Urticaceae	*Urtica dioica*	common nettle

Appendix B. Photos of the La Avenida Street Study Area

Photo 1. La Avenida Street on the western side of the study area.

Photo 2. Developed area located at the top of the bank near Stevens Creek Trail on the western side of the study area.

Photo 3. Developed pedestrian trial that is bordered by a non-native wild oats dominant grassland habitat to the left and seasonal floodplain wetlands to the right. Stevens Creek is located to the right.

Photo 4. Small culvert embedded in a sakrete bank stabilization on the eastern side of Stevens Creek.

Photo 5. Non-native grassland/ornamental savanna near a fence that delineates the premises of the 63rd Regional Support Command Headquarters.

Photo 6. A *Brassica nigra* patch in the non-native grassland/ornamental savanna habitat on the eastern side of the study area.

Photo 7. Divergent trails on the eastern side of the study area that are bordered by a non-native grassland habitat. Seasonal wetland habitat is located next to Stevens Creek on the far left side.

Photo 8. The widest stretch of Stevens Creek before it splits into two perennial freshwater stream channels in the La Avenida Street study area. On the left, an emergent wetland transitions into a seasonal wetland.

Photo 9. The location where Stevens Creek splits into two perennial freshwater streams, creating a rocky seasonal wetland outcrop that is surrounded by emergent wetland.

Photo 10. A large culvert embedded in a sakrete bank stabilization located along the western bank of Stevens Creek in the La Avenida Street study area.

Appendix C. Special-status Plant Species Considered but Rejected for Occurrence

Scientific Name	Common Name	Absence of suitable habitat types	Lack of specific microhabitat or edaphic requirements, such as serpentine soils	Outside Elevation Range for Species	Lack of associate species/heavy disturbance
Acanthomintha duttonii	San Mateo thorn-mint		X	X	
Acanthomintha lanceolata	Santa Clara thorn-mint	X	X	X	
Allium peninsulare var. franciscanum	Franciscan onion		X	X	
Androsace elongata ssp. acuta	California androsace			X	
Arctostaphylos regismontana	Kings Mountain manzanita	X		X	
Astragalus tener var. tener	alkali milk-vetch		X		
Atriplex depressa	brittlescale		X		
Atriplex minuscula	lesser saltscale		X		
Azolla microphylla	Mexican mosquito fern	X			
Calandrinia breweri	Brewer's calandrinia	X			
Calochortus umbellatus	Oakland star-tulip		X	X	
Calystegia collina ssp. venusta	South Coast Range morning-glory		X	X	
Campanula exigua	chaparral harebell	X	X	X	
Centromadia parryi ssp. congdonii	Congdon's tarplant		X		
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	X			
Chorizanthe robusta var. robusta	robust spineflower	X			
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle		X		
Cirsium praeteriens	lost thistle				X

Scientific Name	Common Name	Absence of suitable habitat types	Lack of specific microhabitat or edaphic requirements, such as serpentine soils	Outside Elevation Range for Species	Lack of associate species/heavy disturbance
Clarkia breweri	Brewer's clarkia	X	X	X	
Clarkia concinna ssp. automixa	Santa Clara red ribbons	X		X	
Collinsia multicolor	San Francisco collinsia	X			
Cypripedium fasciculatum	clustered lady's-slipper	X		X	
Dirca occidentalis	western leatherwood				X
Eriogonum argillosum	clay buckwheat	X	X	X	
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	X		X	
Eriogonum umbellatum var. bahiiforme	bay buckwheat	X	X	X	
Eriophyllum jepsonii	Jepson's woolly sunflower	X		X	
Eriophyllum latilobum	San Mateo woolly sunflower	X			
Eryngium aristulatum var. hooveri	Hoover's button-celery	X			
Erysimum franciscanum	San Francisco wallflower		X		
Extriplex joaquinana	San Joaquin spearscale		X		
Fissidens pauperculus	minute pocket moss	X			
Fritillaria agrestis	stinkbells		X		
Fritillaria liliacea	fragrant fritillary		X		
Galium andrewsii ssp. gatense	phlox-leaf serpentine bedstraw	X	X	X	
Helianthus exilis	serpentine sunflower	X	X	X	
Hesperolinon congestum	Marin western flax		X		
Hoita strobilina	Loma Prieta hoita		X		
Iris longipetala	coast iris	X			
Isocoma menziesii var. diabolica	Satan's goldenbush	X			

Scientific Name	Common Name	Absence of suitable habitat types	Lack of specific microhabitat or edaphic requirements, such as serpentine soils	Outside Elevation Range for Species	Lack of associate species/heavy disturbance
Lasthenia conjugens	Contra Costa goldfields				X
Legenere limosa	legenere	X			
Leptosiphon acicularis	bristly leptosiphon			X	
Leptosiphon ambiguus	serpentine leptosiphon		X	X	
Leptosiphon grandiflorus	large-flowered leptosiphon				X
Lessingia hololeuca	woolly-headed lessingia		X		
Lessingia tenuis	spring lessingia	X		X	
Malacothamnus arcuatus	arcuate bush-mallow	X			
Malacothamnus davidsonii	Davidson's bush-mallow			X	
Malacothamnus hallii	Hall's bush-mallow	X			
Malacothrix phaeocarpa	dusky-fruited malacothrix			X	
Micropus amphibolus	Mt. Diablo cottonweed				X
Microseris sylvatica	sylvan microseris		X		
Mielichhoferia elongata	elongate copper moss	X			
Monardella antonina ssp. antonina	San Antonio Hills monardella	X		X	
Monolopia gracilens	woodland woolythreads		X	X	
Navarretia cotulifolia	cotula navarretia		X		
Navarretia myersii ssp. myersii	pincushion navarretia	X	X		
Navarretia paradoxiclara	Patterson's navarretia	X	X	X	
Navarretia prostrata	prostrate vernal pool navarretia		X		
Pedicularis dudleyi	Dudley's lousewort			X	
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah				X

Scientific Name	Common Name	Absence of suitable habitat types	Lack of specific microhabitat or edaphic requirements, such as serpentine soils	Outside Elevation Range for Species	Lack of associate species/heavy disturbance
Piperia candida	white-flowered rein orchid	X			
Piperia leptopetala	narrow-petaled rein orchid	X		X	
Piperia michaelii	Michael's rein orchid	X			
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	X			
Plagiobothrys chorisianus var. hickmanii	Hickman's popcornflower	X			
Plagiobothrys glaber	hairless popcornflower	X			
Psilocarphus brevissimus var. multiflorus	Delta woolly-marbles	X			
Puccinellia simplex	California alkali grass				X
Senecio aphanactis	chaparral ragwort	X			
Sidalcea malachroides	maple-leaved checkerbloom				X
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower		X	X	
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	X		X	
Suaeda californica	California seablite	X			
Trifolium amoenum	two-fork clover				X
Trifolium hydrophilum	saline clover		X		
Tropidocarpum capparideum	caper-fruited tropidocarpum		X		
Usnea longissima	Methuselah's beard lichen	X			